

62.27

1955

Michael-Leonard's

GARDEN GUIDE

Sioux City, Iowa



In addition to complete listings
of Michael-Leonard Seed, this
handy Garden Guide contains:

When To Plant Vegetables

Best Times To Harvest

Notes On Canning

Preparing Vegetables For Freezing

Tips On Building New Lawns

. . . and many other useful
notes for gardeners

PRICE
25c

New Revolutionary Discovery Of
MICHAEL-LEONARD Research . . .

POWER-PAK*

After years of careful research, we have combined—in POWER-PAK—four powerful chemicals which were found to be amazingly beneficial to seed germination and plant growth. POWER-PAK makes good seed better! POWER-PAK'd Michael-Leonard Seed now assures gardeners of increased germination, better stands, faster growth rate, greater yields, high quality. And it reduces root rot, seed decay and damping off.

To get your garden off to a good start, use Michael-Leonard POWER-PAK'd Seed!

Here's How

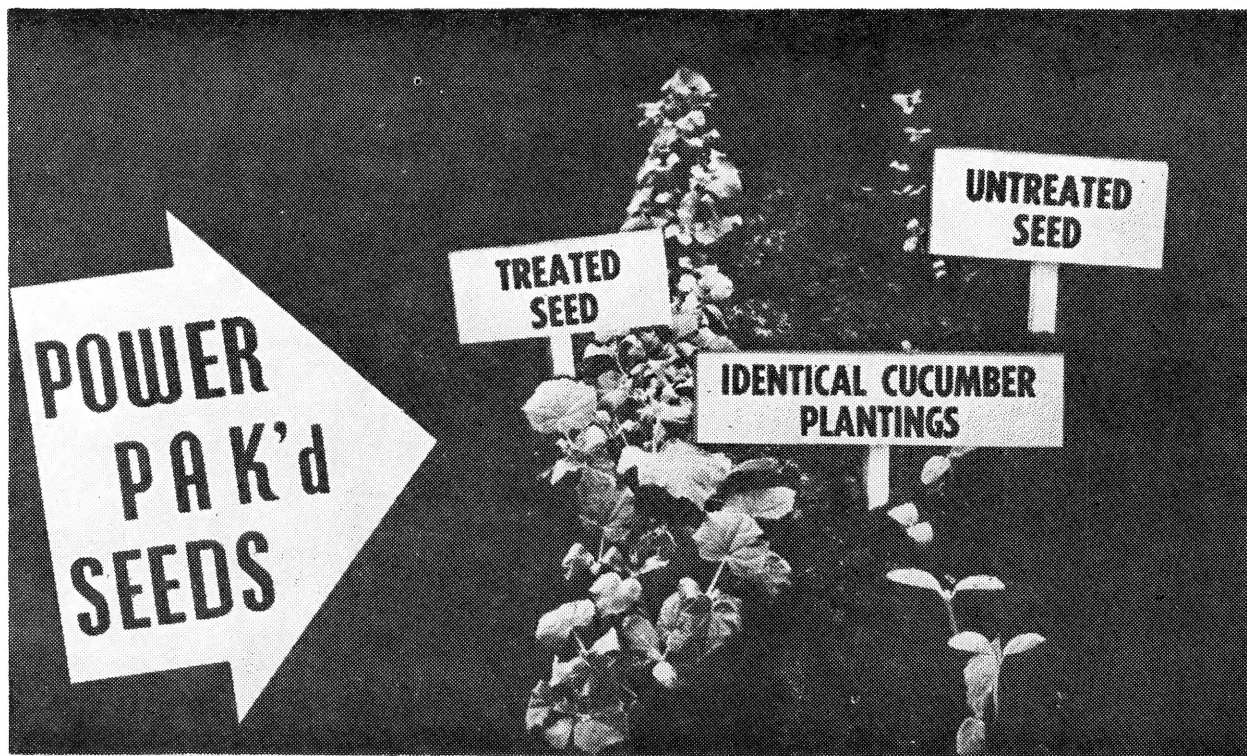
POWER-PAK

Pays Off!

Compare results! 30% to over 100% more value for your money . . . with POWER-PAK'd Michael-Leonard Seed.

NORMAL PLANTS FROM ONE PACKET
OF SEED

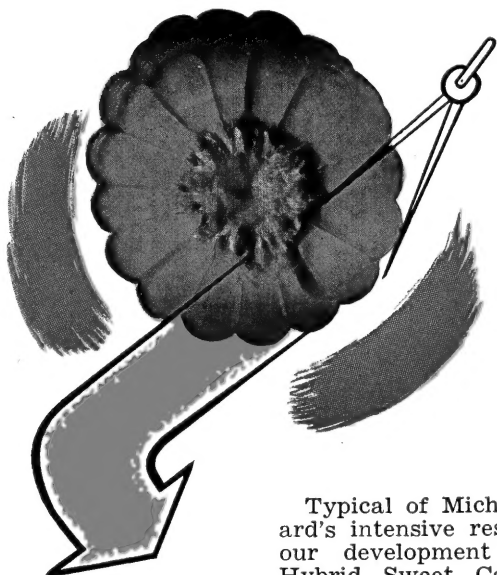
	without Power-Pak	with Power-Pak	percent increase
TOMATO	52	85	63%
CARROT	110	162	47%
CABBAGE	54	75	39%
BEETS	42	56	33%
CUCUMBER	13	56	330%
LETTUCE	30	76	153%
SWEET CORN	42	56	33%
RADISH	53	69	30%
TURNIP	190	287	51%
WATERMELON	14	29	107%



This unretouched photograph shows the difference in growth between Cucumber Seed treated with POWER-PAK, and ordinary untreated seed. Note the fine stand, the thicker, more luxuriant growth of the treated seed. POWER-PAK sterilizes seed against disease, stimulates early root growth, insures a more adequate root system—and has increased up to 150% the number of healthy sprouts from a single package of garden seed.

**This Year For Greater Success With
Your Lawn and Garden . . .**

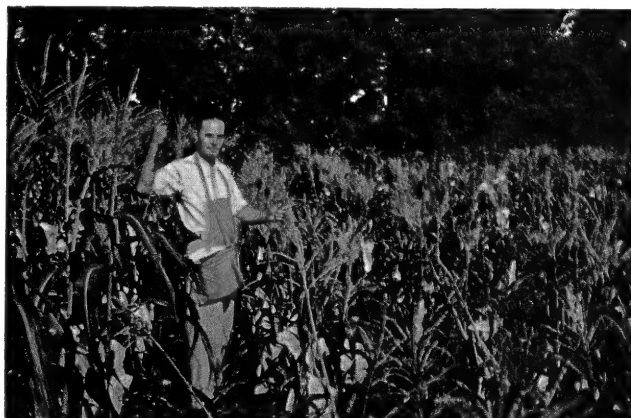
USE MICHAEL-LEONARD SEEDS



Typical of Michael-Leonard's intensive research, is our development of fine Hybrid Sweet Corn. For over 20 years our expert plant breeders have been crossing and re-crossing thousands of strains. From this unparalleled research has come many of the world's finest Sweet Corn Hybrids. In this corn you get a combination of only the good qualities of many varieties—skillfully combined into one.

From its founding in 1884, The Michael-Leonard Company has constantly sought to supply only the best of seed to its customers. To that end, we support a continuous research program — a program which has developed our famous POWER-PAK treatment; new improved Sweet Corn; and many other advances. All these improved varieties of seed are made available to you promptly through your local Michael-Leonard Dealer.

This year—and every year—obtain your seed directly from him. He can give you helpful “on-the-spot” advice . . . and better seed at lower cost.



Here is Dr. Stuart N. Smith, our Research Director, in a plot of experimental Sweet Corn inbreds.

The MICHAEL-LEONARD Company
P.O. Box 1048 — Sioux City 2, Iowa
333 West 35th St.—Chicago 16, Ill.

IN THIS CATALOG YOU WILL FIND:

	Pages
Vegetable Seed	6-17
Corn: Special Section.....	4-6
Flower Seed	18-19
Chemical Products	20-21
Mowers	21
Fertilizers	21-22
Peat Moss	19
POWER-PAK	2
Sprayers	22
Grass Seed	23-24

	Page
When To Plant Vegetables.....	7
How To Prepare Vegetables For Freezing.....	10
Notes On Canning.....	10
Grow and Serve Your Own Vitamins.....	11
Best Times To Harvest.....	14
Be KIND To Your Garden Tools!.....	15
Tips On Building New Lawns and Rejuvenating Old Ones.....	23
How Much Grass Seed To Use.....	23

NOW

For Your Garden
and Your Table . . .

NEW DELICIOUS

Prove to yourself—with your own planting—that Michael-Leonard Sweet Corn yields more . . . grows more vigorously . . . is more resistant to wind, drought, insects and corn diseases . . . is easier, quicker, cheaper to harvest . . . makes a better canned or frozen product.

Enjoy this delicious Sweet Corn, with its large, juicy kernels, through the entire summer. Simply plant several different hybrids at one time, with different maturing dates. You'll be the first and the last to enjoy your own, home-grown sweet corn!

★Starred varieties were originated by Michael-Leonard Co.

CULTURE. Sweet Corn produces best on fertile soil and the land should receive a good complete fertilizer treatment before planting. Do not plant corn in cold ground unless a good seed treatment is used. About the middle of May, plant corn in hills 3 to 3½ feet each way, dropping 4 to 5 seeds to a hill, later thinning to 3 stalks; or plant in 3 or 3½-foot rows, dropping 3 seeds to the foot, later thinning to stand 1 foot apart in the rows. Seed should be covered ½ inch on heavy soil to 1 inch on light, sandy soil. One pound will plant 200 hills or 400 feet of row and 7 to 10 pounds plant an acre. Plant every two weeks up to July 15th for a continuous supply. Early July plantings are delicious in September. Number of days is from germination to roasting ear stage.

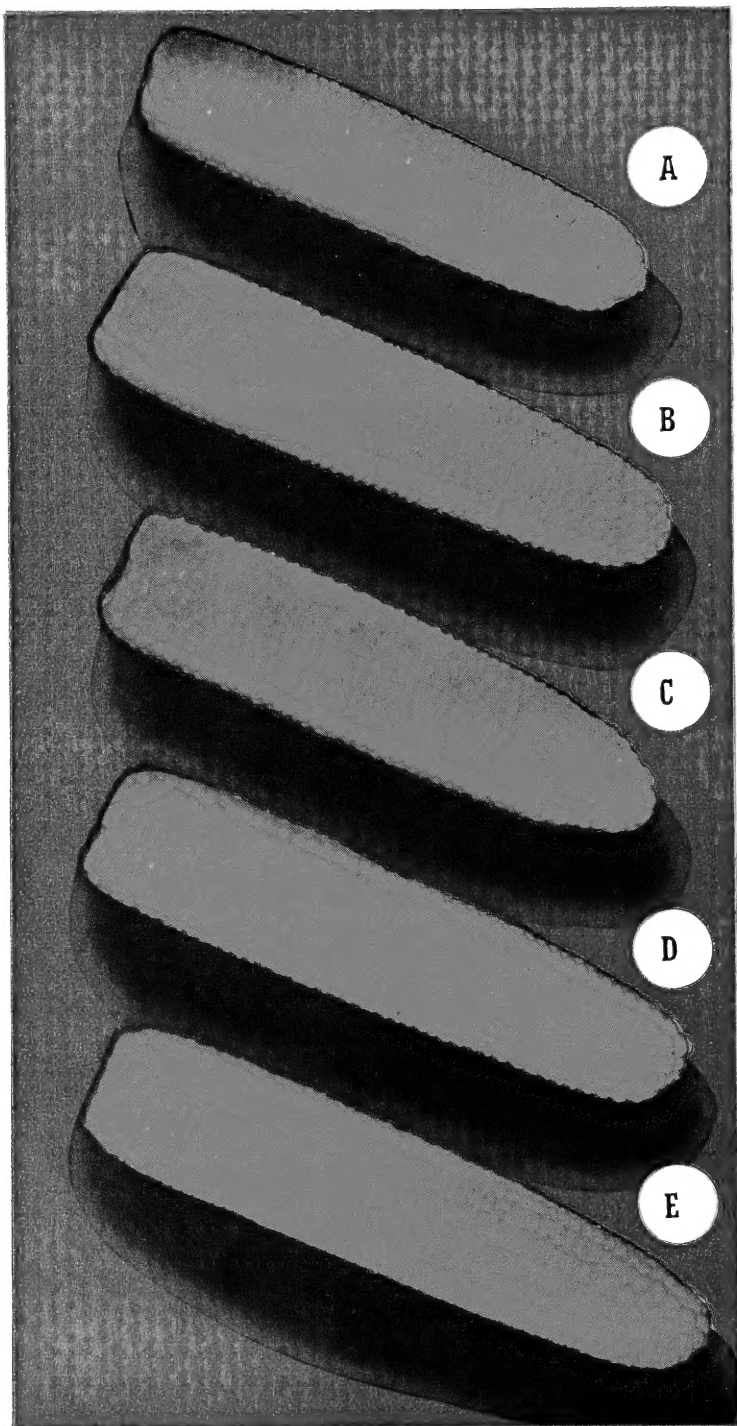
HYBRID VARIETIES

New and superior Hybrid varieties are rapidly replacing the open-pollinated types. The performance of Hybrids in comparison to open-pollinated varieties is outstanding. The vigor, uniformity in maturity, disease resistance, quality, resistance to lodging and productivity is outstanding and justifies the popularity and widespread use of Hybrids.

YELLOW HYBRIDS

★(A) **ALPHAGOLD (Y)**—(60 Days)—One of the best extra early sweet corns for garden use. This 10 to 12 rowed hybrid closely resembles Golden Bantam but is earlier. Ears are well covered with a protective husk reducing damage from birds and ear worms. Plants are about 4½ feet tall, frequently bear two well developed 10 to 12 rowed ears.

★**ALPHABEST (Y)**—(65 Days)—**EAR:** 9" long, 8 to 10 rows, medium yellow, excellent quality, sweet and tender with well filled tips, long protecting husk. **PLANT:** 5½ ft. tall, vigorous, makes good early growth, dark green, drouth resistant. **USE:** Canning, whole ear pack; market garden and home garden and freezing. A fine corn for the home gardener as well as bringing in a good early price for the market gardener. Unusually perfect ears.



MICHAEL-LEONARD

SWEET CORN!

★**ARISTOGOLD BANTAM EVER-GREEN** (Y) — (87 Days) — EAR: 9" to 10" long, 16 to 18 rows, medium yellow deep kernels, good quality. PLANT: 8 to 9 ft. tall very vigorous, dark green foliage, drouth resistant, high yields, picks mechanically. Very wilt resistant. USE: Canning, cream style corn, market garden, southern shipper. Big ears and the most dependable production you can buy have made this one of the most widely used in America. Very outstanding throughout the South. Produces a good crop where many other varieties fail. Fancy edible period 85 to 90 days.

GOLDEN CROSS BANTAM (Y) — (83 Days) — EAR: 7½" to 8" long, 12 to 14 rows, average kernel depth, medium yellow. PLANT: 6½ to 7 ft. tall, vigorous, wilt resistant, straw color tassels. USE: Freezing, canning whole kernel or cream style. One of the first sweet corn hybrids developed. Reaches the fancy edible stage 80 to 85 days.

(D) ★**GOLDEN CROSS BANTAM, WHITE SILK** (Y) — (81 Days) — EAR: 8" long, mostly 14 rows, deeper than average kernel, medium yellow. PLANT: 6½ to 7 ft. tall, vigorous, dark green, wilt resistant, suckers moderately. USE: Freezing and canning whole kernel or cream style. Clean white silks almost invisible if missed in packing.

This hybrid has all the good qualities of regular Golden Cross, plus pure white silks. You will be surprised at the clean wholesome appearance because of the almost indistinguishable silk fragments.

★**GOLDEN GRAIN** (Y) — (87 Days) — EAR: 9" long, 18 to 22 rows, exceptionally deep kernels, medium yellow, quality good. PLANT: 8 to 9 ft. tall, very vigorous, drouth resistant, dark green foliage, high yields, picks mechanically. USE: Canning cream style.

A big spectacular corn with deep tender kernels. Has practically no suckers. Fancy edible period, 85 to 92 days.

(B) ★**MICHAEL-LEONARD'S HYBRID GOLDEN HUMMER** (68 Days) — Stalks 5 to 6 ft. with showy 12 rowed ears. One of the best early market and garden varieties. The big well filled ears are among the most delicious of the early types. Very hardy and a reliable producer.

★**IOANA D. R.** (Y) — (83 Days) — EAR: 8" to 8½" long; 12 to 14 rows; light yellow, medium kernel depth and width, good quality. PLANT: 7½ to 8 ft. tall, widely adapted, few suckers, dark green, wilt resistant, more drouth resistant and makes higher yields than regular Ioana. USE: Canning, whole kernel or cream style.

Very similar to the regular Ioana except that it has a taller stalk, longer ear and more drouth resistant. Fancy edible stage 83 to 86 days.

IOCHIEF (Y) — (86 Days) — EAR: 8" to 9" long, 14 to 18 rows, good quality, brilliant yellow, deep kernels. PLANT: 7 to 7½ ft. tall, few suckers, dark green, drouth resistant, good yields. USE: Canning whole kernel and cream style.

A fine variety for the home garden. Produces large ears on large stalks. The yields are high and the fancy edible period is 85 to 88 days.

MARCCROSS (Y) — (76 Days) — EAR: 7" long, 10 to 14 rows with broad kernels, light yellow, fairly good flavor and quality. PLANT: 5 ft. tall, medium broad leaves, medium green, few suckers. USE: Canning in far North and market garden areas elsewhere.

A good early variety used in the home garden and in the eastern and northern market garden areas.

★**TENDERCHIEF** (Y) — (85 Days) — EAR: 8" to 9" long, 14 to 18 rows, rich yellow, very deep kernels. Has very crisp and tender texture. PLANT: 7 to 8 ft. tall, very sparse suckers, drouth resistant with unusually high yields. USE: Whole kernel and cream style canning or market garden or freezing. Crisp, tender kernels make processed product resemble garden fresh corn. Always dependable, top level yields.

★**TENDERFREEZER** (Y) — (83 Days) — EAR: 9" to 10" long with small cobs. Texture very tender with unusually high sugar content. Bright gold, lustrous kernels at medium depth. Colorless silks are nearly invisible. PLANT: 6 to 6½ ft. tall, often two-eared on good soil, sparse suckers, high yield in dozens per acre. USE: Ideal for freezing or packing on the ear. Long slim ears with colorless silks make ears attractive and high sugar and tender kernels make this variety very popular.

(C) ★**TENDERGOLD** (Y) — (77 Days) — EAR: 7" to 8" long; 10 to 12 rows, medium yellow, good flavor. PLANT: 5½ to 6 ft. tall, medium green. USE: Canning, cream style and market gardeners and for the home garden.

An early corn that ripens about four days ahead of Golden Bantam and yields about twice as much. Try this in your home garden this season. Fancy edible stage 74 to 81 days.

(E) ★**TENDERMOST** (Y) — (85 Days) — EAR: 9" to 9½" long, 14 to 18 rows, brilliant yellow, holds very well in the field, excellent quality. Very deep kernel, small cob. PLANT: 7 to 7½ ft. tall, dark green, sparsely suckered, picks well mechanically, wilt resistant. USE: Freezing, canning whole kernel or cream style, market and home gardeners.

Of all the hybrids we have developed, this is the most tender and succulent. Large ears, deep sugary-sweet kernels. This corn stays sweet and tender on the stalk for nearly two weeks. Fancy edible stage 81 to 91 days. Make successive plantings in the northern half of the United States from early May to mid-July for continuous summer crops.

★**TRISTATE** (Y) — (86 Days) — EAR: 8" to 9" long, mainly 14 rows with perfectly filled tips. PLANT: 7½ to 8 ft. tall, dark green, very drouth resistant, high yields, vigorous, picks mechanically. USE: Canning, cream style.

This is one hybrid that is not sensitive to soil type. Makes good yields most any place and in dry seasons, too. An excellent variety for the South. Fancy edible period 84 to 88 days.

WHITE HYBRIDS

★**SILVER CROSS BANTAM** (W) — (83 Days) — EAR: 8" to 9" long, 12 to 14 rows, snow white, good kernel depth, has flavor like Golden Cross, very rich. PLANT: 6½ to 7½ ft. tall, vigorous, widely adapted, good yielder, picks mechanically. USE: Canning whole kernel or cream style.

If you like white corn, don't miss this one. Silver Cross Bantam has the same high quality that Golden Cross possesses. In fact, they look alike except Silver Cross is white. Fancy edible stage 80 to 86 days.

(Continued Next Page)



MICHAEL-LEONARD

VEGETABLE

BEANS

BUSH GREEN PODDED VARIETIES

CULTURE. Beans are easily frost killed, so plant them at corn planting time, on light, dry land. Cold, wet weather will rot the seed in the ground and fresh manure causes a rank growth of vine with a lack of pods. Hand cultivated beans can be drilled in poor soil as close as 18 inches, but in rich soil with machine cultivation, 30 inches is required. Drill 6 beans to the foot and cover one inch deep, or plant 4 beans to the hill, 18 by 24 inches apart.

Two pounds of seed should plant 200 feet and 60 pounds an acre. Plant every other week for a succession up until August first in the latitude of Chicago. Frequently your later plantings will turn out the best. Shallow cultivation only should be given at all times and do not cultivate when the plant is in bloom as the plant will drop its blossoms; never cultivate when wet, as it causes rust.

Pick beans before the bulge of seed appears and pick them clean to continue the plants bearing. Number of days is from planting to first picking. Beans respond well to complete commercial fertilizer. Apply at planting time and again when they blossom.

BOUNTIFUL (50 Days) — Vine light green, 18 inch upright, strong growing bush. Stringless at all stages. Pod light green, average 7 inches long by $\frac{1}{2}$ inch wide, thin and flat. Very meaty. Excellent market garden and shipping variety.

BURPEE'S STRINGLESS GREEN POD (50 Days) — Plants large, very productive. Pods curved, round, $5\frac{1}{2}$ to 6 inches long; medium green, meaty, stringless. Excellent quality. One of the best varieties for canning cut beans and very popular with home gardeners.

CONTENDER (49 Days) — Pod— $5\frac{1}{2}$ " \times $\frac{1}{8}$ ", semi-round. Flesh thick, fiberless and stringless, medium dark green. Plant — 14" to 16", vigorous, mosaic-resistant, very prolific, pods borne low.

GIANT STRINGLESS GREEN POD (53 Days) — Widely used for canning. Very heavy, stocky vine. Pods round, 6 to $6\frac{1}{2}$ inches long, of exceptionally fine quality, stringless throughout entire growth.

HORTICULTURAL, DWARF (54 Days) — Vine very productive, compact, upright, with large leaves. Pods 4 to 5 inches long, wide, thick, stringless.

TENDERGREEN (53 Days) — Michael-Leonard's new strain of this variety is mosaic resistant. Vine medium light, 18-inch bush, upright with good leaf growth. Pods light green, 6 inch average, straight, round, crisp, meaty, stringless and without fiber. Very fine flavor. One of the best all around varieties.

TOPCROP—ALL AMERICA, 1950 (52 Days) — Plant medium large with leaf similar to Refugee 15-16 inches tall bush habit. Pods medium light green, $5\frac{1}{2}$ to 6 inches long, round, meaty, crisp and slightly curved. Strictly stringless and fiberless up to advanced stages.

RED VALENTINE, STRINGLESS (54 Days) — Plant medium size, erect, very productive. Pods 4 to $4\frac{1}{2}$ inches long, medium green, round, curved, slim with crease in back; stringless; very fleshy, crisp and tender.

WADE — ALL-AMERICA, 1952 (55 Days) — New stringless green pod bean. Grows upright and keeps pods well off ground. Pods are round, long, straight, slender, stringless, comparatively free from fiber and of a dark green color. Is ideally suited for shipping, canning or freezing.

WHITE HALF RUNNER (60 Days) — A popular variety in the mountain areas of the mid-south and southeast; used mainly by home gardeners for snap and shelled beans. Vine — bushy, vigorous and productive with short runners. Pods—4 inches long, $\frac{3}{8}$ inches wide, round, medium light green, stringy and fibrous at full size, but has a distinctively good flavor.

FIELD OR SHELL VARIETIES

GREAT NORTHERN OR LARGE

WHITE NAVY (100 Days) — Vine a medium dark color, 14 to 18 inches, rank, heavy growth with short tendrils. Pods medium dark, 3 inches long, flat and straight. Very heavy cropper. Larger, heavier producer than old Michigan Navy, but not equal in quality.

(CORN Cont'd from Page 5)

OPEN POLLINATED

The open-pollinated varieties are rapidly being replaced by new and superior Hybrid strains.

COUNTRY GENTLEMAN (90 Days) — Seed small, round, slim, pointed, shoe peg type, stalk 7 feet, ears 7 to 8 inches, tapered, small, white kernels (not in rows) very closely packed, very deep, slim, round top, pure white, very sweet and well flavored.

STOWELL'S EVERGREEN (94 Days) — Standard main crop variety. It is popular for marketing and for the home garden. Stalks 7 to 8 feet; ears 14 to 18 rowed, 7 to 9 inches long.

GOLDEN BANTAM (78 Days) — Stalks 4 to 5 feet high; ears 6 to 7 inches long with 8 rows; kernels broad, sweet, very tender.

MICHAEL-LEONARD'S GOLDEN HUMMER (60 Days) — One of the earliest of the Yellow Sweet Corns for market gardeners as well as home gardeners. Ears $6\frac{1}{2}$ to 7 inches, 12-rowed; kernel golden yellow, medium deep, broad and of excellent flavor.

POP CORN

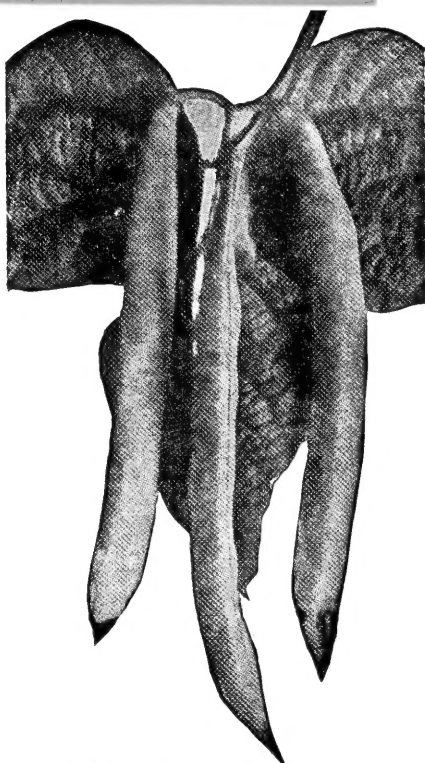
MINNHYBRID (85 Days) — This hybrid variety is an improvement over Japanese Hulless for yield and popping. Ears 3 to 4 inches long, plump and blunt, kernels are deep pointed with thin skins. Stalks 5 to 6 ft. tall.

SOUTH AMERICAN HYBRID (105 Days) — Orange yellow kernels somewhat rounded with very high popping expansion. Ears 6 to 8 in. long, 14 to 16 rowed. Vigorous grower, stalk 6 to 7 ft. high.

ASPARAGUS SEED

MARY WASHINGTON — Latest development of rust resistant asparagus; large, with very tight tips of fine quality.

SEED



KIDNEY, DARK RED (96 Days)
—Popular variety. Vine dark colored, strong growing, upright 18-inch bush with a rather scant growth of large leaves. Pods dark, 5 inches long, wide, flat, straight, stringy, fibrous and unfit for snap use. Used as a dry shell bean in the commercial market.

KIDNEY, IMPROVED WHITE (100 Days)—Vine dark, 18 inches, strong growing bush with a rather scant growth of large leaves. Pods dark, 4 inches, wide, flat, straight, stringy and fibrous. Is not a snap bean type. Used as a dry shell bean.

NAVY (100 Days)—Vine medium dark, 16 to 18 inches, strong growing, short runner type. Pods light green, 3 inches long, flat, straight, medium broad. Dry shell commercial bean.

BUSH WAX PODDED VARIETIES

BLACK WAX, PENCIL POD (53 Days)—Plant large, vigorous, upright. Very dependable producer. Pods golden yellow, 5 to 6 inches long, round, curved; very meaty, stringless and of excellent flavor.

GOLDEN WAX, IMPROVED (50 Days) — Vine medium light, 14-inch, strong, sturdy bush with a medium heavy leaf growth. Pods a fine deep waxy yellow color, four inches, straight, wide, thick, flat, stringless, considerable fiber as pod ages, very well flavored.

WHEN TO PLANT

Time-To-Plant Key

A—Soon as soil can be worked.

B—Week before last likely spring frost.

C—Early enough to allow maturity before freeze in fall.

D—When danger of hard freeze is past.

E—Two weeks before last likely spring frost.

F—After all danger of frost is past.

	Seed Required for 50 ft. of row	Dist. Between Rows (Ins.)	Dist. Apart In Row (Ins.)	Depth to Plant (Ins.)	Time to Plant	Days Growing Period	Edible Period	Approx. Yield Per 50 ft. of Row
Artichoke	1/8 oz.	48	48	1/4	A			
Asparagus	1/2 oz.	24	20	1/2	A	2-3 yr.	4-5 wk.	25 lbs.
Beans, Bush	1/2 lb.	24	4	1 1/2	F	50-70	4-5 wk.	20 qts.
Beans, Lima	1 lb.	24	3	1	F	60-90	3-4 wk.	32 qts.
Beans, Pole	1/2 lb.	36	8	1 1/2	F	60-90	6-8 wk.	30 qts.
Beans, Pole Lima	1 lb.	48	8	1 1/2	F	88	3-4 wk.	1 1/4 bu.
Beets	1/2 oz.	12-18	3	1/2	A-C	55-100	4-6 wk.	1 1/4 bu.
Broccoli	1/8 oz.	24	24	1/2	A	80-120	8-10 wk.	25 head
Brussels Sprouts	1/8 oz.	24	18	1/2	A	70-110	6-8 wk.	15 qts.
Cabbage	1/4 oz.	24	12-24	1/2	A	75-130	4-6 wk.	35 head
Chinese Cabbage	1/2 oz.	24	12	1/2	C	75-85	4-6 wk.	40 head
Carrots	1/2 oz.	16	3	1/2	A-C	65-85	6-8 wk.	24 qts.
Cauliflower	1/4 oz.	24	20	1/2	A-C	65-90	1-2 wk.	25 head
Celery	1/8 oz.	24	6	1/4	D	100-140	6-8 wk.	100 stalk
Collards	1/4 oz.	30	18	1/2	C	24-36	until fall	3 bu.
Corn, Sweet	4 oz.	36	9	1	E	65-100	1-2 wk.	100 ears
Corn, Pop	3 oz.	34	8	1	E	115		
Cucumber	1/2 oz.	48	36	1/2	F	60-100	4-6 wk.	100 fruit
Eggplant	1/8 oz.	36	24	1/2	F	110-150	until fall	75 fruit
Endive	1/2 oz.	18	12	1/2	A	80-100	3-4 wk.	50 head
Kale	1/2 oz.	32	22	1/2	A-C	70-100	until fall	50 plants
Kohlrabi	1/4 oz.	24	6	1/2	A-C	55-75	2-3 wk.	1 bu.
Lettuce	1/4 oz.	18	12	1/4	E	90-120	3-4 wk.	50 head
Muskmelons	1/2 oz.	60	48	3/4	F	90-120	3-4 wk.	50 fruit
Mustard	1/4 oz.	24	9	1/2	A-C	28	until fall	1 bu.
Okra	1 oz.	36	15	1	F	50	until fall	450 pods
Onions	1/4 oz.	18	4	1/4	A	110-140	4-8 wk.	1 bu.
Onion Sets	1 pt.	12	6	1/2	A	50-100	4-8 wk.	60 bun.
Parsley	1/4 oz.	12	6	1/4	A	90-120	until fall	45 bun.
Parsnips	1/2 oz.	18	4	1/2	A	100-150	until fall	1 bu.
Peas	3/4 lb.	24	2	1	A	50-70	1-2 wk.	1 bu.
Peppers	1/8 oz.	30	20	1/2	F	100-140	until fall	300 fruit
Pumpkin	2 oz.	96	60	3/4	F	90-120	until fall	25 fruit
Radish	1/2 oz.	12	2	1/2	A-C	25-30	1-2 wk.	50 bun.
Rhubarb	1/2 oz.	48	48					100 stem
Rutabaga	1/8 oz.	24	6	1/2	A-C			1 bu.
Salsify	1/2 oz.	18	2	1/2	A	130-150	fall	300 roots
Spinach	3/4 oz.	18	5	3/4	A-C	40-60	1-3 wk.	1 1/2 bu.
Spinach, N.Z.	1/2 oz.	36	18	1	D	70	until fall	50 lbs.
Squash, Bush	1/4 oz.	48	48	1	F	60-80	until fall	60 fruit
Squash, Winter	1/4 oz.	72	72	1	F	100-140	fall	35 fruit
Swiss Chard	1/2 oz.	18	15	1	A	50-60	until fall	25 lbs.
Tomatoes	1/16 oz.	40	36	1/2	F	100-150	6-12 wk.	2 bu.
Turnips, Roots	1/4 oz.	18	4	1/4	A-C	50-70	1-3 wk.	1 bu.
Turnips, Greens	1/2 oz.	12	4	1/4	A-C	50-60		1 1/2 bu.
Watermelons	1/2 oz.	60-96	60-96	3/4	F	90-130	3-4 wk.	20 fruit

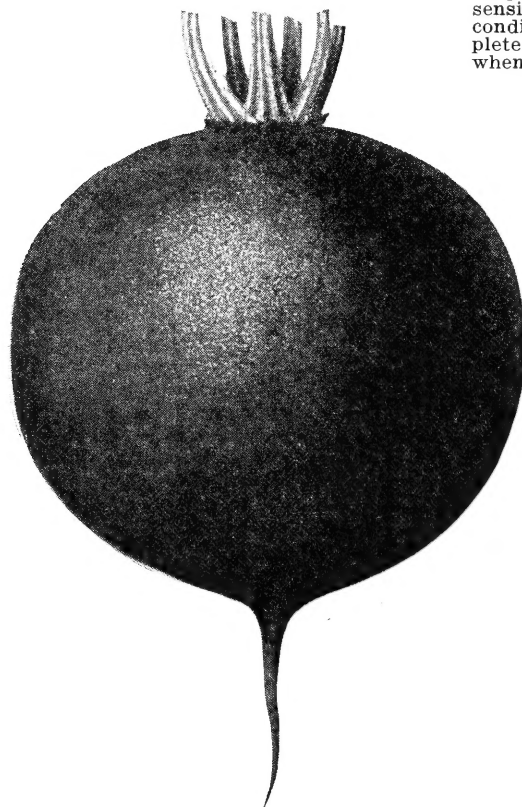
BUSH LIMA VARIETIES

CULTURE. Lima Beans require even more heat than other Beans. Should not be planted until ground is thoroughly warmed. Bush Limas should be sown on good garden soil in 2 to 3 ft. rows, 3 to 6 inches apart, eye down, cover 1 inch if planted in light soils, less in heavy soil. One pound will plant 50 to 60 feet. Pole Limas are more tender than the Bush Limas. Set 6 ft. poles, 4 feet each way and drop 4 to 6 beans, eye downward around each pole, thinning to 3 plants when up.

BURPEE'S IMPROVED BUSH (75 Days) — Similar to Burpee's Bush Lima, but slightly earlier and longer podded. Plant large, erect, vigorous, very productive; pods contain four to five seeds. Dry beans, large, plump, flat-oval, surface somewhat wrinkled, color white with greenish tinge.

FORDHOOK BUSH (75 Days) — Vine strong, erect and true bush lima growth. Foliage heavy and very dark green in color. The stalks that produce the blossom are thrown out from the lateral and main stalks. Pods are large, thick, containing three to five beans. The most popular market gardeners' lima bean.

FORDHOOK No. 242 (75 Days) — Plants similar to Fordhook but with greater spreading habit and somewhat earlier. Pods $3\frac{1}{2}$ to 4 inches with 3 to 4 beans per pod. Yields well under adverse conditions. Excellent freezing variety.



HENDERSON'S BUSH OR DWARF SIEVA (66 Days) — Our stock is the true Henderson's Bush Lima and not the common Baby Lima. Plants bushy, very productive. Pods flat, 3 inches long, containing three to four seeds. Green shelled beans small, flat and of excellent quality.

JACKSON WONDER OR CALICO (66 Days) — Vine dark, 12 inch, thick bush with heavy leaf growth. Pods dark, $\frac{3}{4}$ x 3 inches, flat medium thin. In every way is like the Henderson's Bush except in color of seed. Seed is light buff, purple speckled. Heavy yielder.

POLE LIMA VARIETIES

KING OF THE GARDEN (88 Days) — Old standard market and family sort. Bearing season continues until frost. Pods large and well filled with beans of mammoth size.

POLE OR RUNNING VARIETIES

CULTURE. On well-enriched soil, set poles firmly in ground every 3 or 4 feet each way. Poles should be set about 6 feet high. Some time after bush beans are planted, plant six or eight pole beans one inch deep near base of each stake and later thin to three or four plants to the pole. Thirty pounds of pole beans generously plants an acre and one pound plants one hundred hills. The pole bean bears over a longer period than the bush bean and is generally considered of superior quality but it requires more labor, longer time to mature and is more sensitive to adverse climate and soil conditions. Side dressing with complete commercial fertilizer desirable when first blooms appear.

KENTUCKY WONDER OR OLD HOMESTEAD (65 Days) — Vines vigorous, climbing well, and very productive, bearing its pods in large clusters; blossoms white; pods green. Stringless, 8 to 9 inches long; nearly round when young and very crisp, although at maturity they become irregular and spongy. The dry beans are long, oval, dun-colored.

MCCASLAN'S POLE (65 Days) — Vine medium dark, strong growing pole type, with good leaf growth. Pods light, 8 inches long, flat medium thick, broad, stringless when young, crisp, fiberless and well flavored.

BEET

CULTURE. As soon as the soil can be worked in spring, sow beet seed in 12- to 18-inch rows for hand cultivation or 18- to 30-inch rows for machine cultivation, dropping 12 seeds to the foot. Cover the beet seed, one-half inch. Later, thin the Beets to 3 to 4 inches apart. Planted April 1st the early varieties should be marketable June 1st or the crop may be advanced several weeks by starting under glass and transplanting to the open, first giving the beet tops a severe pruning. Use 1 ounce of seed to 75 feet of row and 6 pounds to the acre. Beets sown in early July should be ready to store in pits or in sand in the cellar when freezing weather begins. Number of days is from planting to edible root.

BLOOD TURNIP, EARLY IMPROVED (60 Days) — An extra selected stock of Blood Turnip having large coarse tops and roots. Requires considerable time to mature. Excellent for summer and autumn.

DETROIT DARK RED (55 Days) — Tops medium, dark green tinged with red. Roots globular. Color deep ox-blood red. Flesh dark red with indistinct lighter red zones. Fine quality, sweet and tender.

EGYPTIAN, CROSBY'S (50 Days) — An extra early variety especially adapted for the market garden and home garden. Roots average 3 inches, of dark red color and almost globular; flesh distinct vermilion, which it retains in cooking. Pleasing sweet flavor. Tops medium.

SWISS CHARD

SWISS CHARD, DARK GREEN WHITE RIB (55 Days) — Very broad, thick, heavy, short white stem and a large, broad, thick, very much crumpled and savoyed spear shaped leaf, growing to 26 and 28 inches tall. Leaves very glossy and waxy looking; upright growth. Best of all the chards; leaves make the most tender of greens and the broad white stems used as asparagus are excellent.

BROCCOLI

GREEN ITALIAN SPROUTING (60 Days) — A distinct variety of the sprouting type. Forms large head consisting of a cluster of bluish-green flower heads. When central head is removed, plant develops numerous lateral sprouts, each with a small head. These are cut, leaving about 6 inches of the stem. Both stems and heads are cooked and served like cauliflower.

CABBAGE

CULTURE. Cabbage plants, when properly hardened by gradually being brought to a low temperature and the quantity of water in them diminished, will stand any frost and some considerable freezing. Yet a cabbage plant raised at a high temperature and full of water will be killed by even a light frost.

Cabbage can be grown by planting the seed heavily where the crop is to grow and thinning the plants but a better practice is to raise the plants without crowding, in a seed bed, which is not richer than the fields to which the plants go. Transplant, if possible, on a cloudy day, watering the plants if the soil is dry. For early Cabbage, sow seed in hotbeds in February, transplant to cold frames in March and set outside in April or sow seed out-of-doors as soon as the soil can

be worked in spring, covering the seed one-third inch deep. All vegetable plants are best when grown without check, so let as much soil adhere to the roots of the plant in transplanting as will hold and set up to the first leaf. At this time the plants should have 4 or 5 pairs of leaves and be 4 to 6 inches high.

Set small varieties to be worked by hand as close as 18 inches, while large, late varieties, horse cultivated, need 30 or more inches. If heads are so early as to begin bursting, push the head to one side far enough to tear off the roots on one side. Cabbage grows successfully on a wide variety of soils and experience points to liming, deep plowing and heavy manuring as successful practices. **The number of days shown is the time required from setting plants to mature heads.**



CHINESE—CHIHILI (75 Days)—Earliest and most sure heading of the Chinese varieties. Upright plant, producing long, solid, white cylindrical heads, 3 to 4 inches thick, 18 to 20 inches in length. Leaves very broad, smooth. Superior quality.

EARLY JERSEY WAKEFIELD (64 Days) — One of the most popular extra early varieties. The plants are compact, erect, with few outer leaves, and withstand cold and unfavorable weather well. Heads medium size, cone-shaped and solid.

GOLDEN ACRE (65 Days) — A selection from the earliest strain of Copenhagen Market. It is a few days earlier, is a somewhat smaller plant and has a slightly smaller head. Very solid, fine grained and exceptionally well flavored.

MARION MARKET OR COPENHAGEN MARKET YELLOWS RESISTANT (75 Days)—Yellows resistant strain of Copenhagen Market. Larger leaves and more spreading. Larger and later maturing round heads.

BRUSSELS SPROUTS

Plant in 3-foot rows, 1½ to 2 feet apart. One ounce will produce about 5,000 plants. Cultivate same as cabbage. Autumn grown sprouts, drilled in May and transplanted in July, generally do the best, as the plants are quite hardy and the buds mellow under frost.

DWARF IMPROVED (75 Days)—Grows 18 to 30 inches high, producing compact sprouts 1 to 2 inches in diameter; grayish green in color. Hardy, early.

CANTALOUPE and MUSKMELON

CULTURE. For muskmelon follow our cultural directions for cucumber except that where a robust growing variety of muskmelon is grown, a space of as much as six by six feet is sometimes required between hills. One ounce of seed plants fifty hills and three pounds plants an acre. The crop, or the last planting for a succession, should be in June. It is advisable to pinch off the branches of muskmelon if a quicker matured or a larger or a better fruit is required. Pick the melon when it parts from the stem without difficulty and store a few days in a cool room. **Number of days is from planting to ripe fruit.**

BENDER'S SURPRISE (94 Days) — Fruits 8 x 7½ inches. Largest of the pink-fleshed melons of oval shape, early for a melon of this size. Exceptionally high quality.

HALE'S BEST, NO. 36 (83 Days) — Fruit 5 x 5½ inches, nearly round, very lightly ribbed, finely netted, green shading to light yellow as it ripens. Flesh thick, firm, stringless and very well flavored; not too sweet. Very small seed cavity with tight web of a salmon pink color.

HONEY ROCK OR SUGAR ROCK (85 Days) — Fruit 5 x 5½ inches, nearly round, no ribs, coarsely netted, grey-green to light yellow as it ripens. Flesh is very thick, tender, salmon pink in color and very well flavored. Very small seed cavity.

HOODOO OR HEARTS OF GOLD (90 Days) — Fruits 5 to 5½ inches, nearly round, very slightly ribbed, finely netted, light green to light yellow as it ripens. Flesh is very thick, firm and delicious. Very small seed cavity with a tight web. Color a bright yellow shading to pink. Stands shipping very well.

How To Prepare Vegetables For Freezing

1. Use only finest vegetables obtainable.
2. Prepare and freeze vegetables as quickly as possible to preserve vitamins and flavor.
3. Scald vegetables by placing in colander or similar container. Immerse in boiling water. Use small quantities so water will boil within ½ minute after vegetables are added. Count only the time that the water is boiling.
4. Drain at once. Cool by immersing immediately in cold water (ice water is best). When vegetables are thoroughly cooled, remove and drain.
5. Pack in suitable containers. Allow 1 to 1½ inches space for expansion in freezing.
6. Place in quick-freeze immediately after packing.

Asparagus. Wash and cut into desired lengths, blanch 2 to 3 minutes.

Green Lima Beans. Shell and scald 1 to 1½ minutes.

Green Beans. Wash, stem and string. Scald whole beans 5 to 6 min., cut beans 2 to 3 min., French cut beans, 1 to 2 min.

Brussels Sprouts. Soak in a salt brine or

cold water 15 minutes. Scald 3 to 4 minutes.

Cauliflower. Break into flowerets, soak 5 minutes in brine. Scald 2 to 3 minutes in brine.

Carrots. Wash and dice or slice; scald 2 to 3 minutes. Small ones may be left whole; scald 3 to 5 minutes.

Corn on the Cob. Husk, trim and wash. Scald on the cob 2 to 3 minutes. Cut from the cob, pack dry and seal tightly.

Peas. Shell and immediately scald for 1 to 1½ minutes.

Spinach. Blanch 1 to 2 minutes, a small quantity at a time. Avoid cooking. Stir gently while in the boiling water to prevent cohesion.

Zucchini. Use young tender squash. Wash, remove blossom ends, slice 1 inch thick, scald 1½ to 2 minutes.

NOTE: In each case scalding is to be followed by draining, chilling, packing and quick freezing.

Notes On Canning

Use only clean, fresh fruits and vegetables. When packing your jars or tins do not crowd or waste space. Two methods of processing most often used are:

WATER BATH CANNER: Keep jars ½ inch from bottom by means of a wire rack or a piece of wood. Lower jars slowly into water, which should be steaming. Count only the time water is boiling. Keep it boiling evenly throughout processing. Remove jars at exact time shown in your chart. Seal.

PRESSURE COOKERS: Process all non-acid vegetables in a steam pressure cooker. Place jars on rack in cooker with 1 to 2 inches of water. Be sure to leave enough space between jars to allow circulation of steam. Fasten lid securely. Close petcock only after steam has escaped steadily for 5 to 7 minutes. Keep pressure constant. Remove from heat at end of processing time. Let stand until gauge is at zero. Open petcock slowly, tilt lid away from your face. Spread a heavy cloth over cooker, catch handles of rack through cloth and lift out. Seal jars according to directions.

CARROT

CULTURE. Plant Carrot seed from the time the soil can be worked in the spring till July, in 1- or 2-ft. rows for hand cultivation or in 30-inch rows where a machine tool is used. Use 1 ounce of seed to 100 feet of row, 3 to 4 pounds to the acre, covering one-half inch deep and later thin to a 4-inch stand. To cultivate the rows at an early date, sow Cabbage or Kohl-Rabi seed, which germinates quickly, with Carrot seed, which germinates slowly. Do not overlook the value of this crop as a stock food.

Number of days from planting to roots of bunching size.

CHANTENAY, RED CORED (70 Days) — An outstanding favorite. Rich, deep, reddish-orange color extends clear to the center. Root tapers to a blunt end.

DANVERS (73 Days) — Highly productive. Adapts to all classes of soil. Tops of medium size, coarsely divided. The smooth and handsome roots are deep orange, of medium length, tapering uniformly to a blunt point; flesh sweet, crisp, tender and of a deep orange color.

IMPERATOR (77 Days) — Tops medium but strong enough for good bunching. Roots 7 to 8 inches long, have sloping shoulders, are smooth, deep rich orange; tapered to a semi-blunt end. Flesh rich orange color, extending to center of root with indistinct core; fine grained, tender and of fine quality. An excellent variety for market garden and shipping.

NANTES HALF LONG OR CORELESS (70 Days) — Tops of medium size, roots cylindrical, smooth, bright orange; flesh orange, becoming yellow in center but with no distinct core. Excellent for the market or home garden.

CAULIFLOWER

CULTURE. For very early Cauliflower sow in hotbed in January or February; transplant to flats or cold frames and set out as soon as the ground is warm in the spring, setting 2 to 2½ feet apart each way. One ounce grows 2,500 plants and four to six ounces plant an acre. Cauliflower cannot be expected to mature satisfactorily in hot, dry weather so must have plenty of water especially when the plants are heading. When the head appears, tie the outer leaves over the head or pin these leaves with wood pins or beef skewers so the leaves will shade and blanch the head and then cut the head before it starts to branch. Remember that all the enemies of Cabbage emphatically attack Cauliflower and are to be combated in a like manner. For early fall and late Cauliflower, plant in open ground in April, transplanting in June, giving same cultivation you would Cabbage.

Number of days shown is time required from setting plants to mature heads.

EARLY SNOWBALL (55 Days) — Plants dwarf, with short pale green leaves. Heads medium, firm, compact, solid, pure white, and of finest quality.

SUPER-SNOWBALL (56 Days) — Starts heading early and uniformly. Heads medium large, compact, very white.

CELERY

GOLDEN SELF-BLANCHING, ORIGINAL STRAIN, SELECTED (120 Days) — The original strain has a greenish tinted outer leaf and a yellow inner leaf, leaves are medium heavy with a fairly strong rib; grows 15 to 16 inches tall and is fairly compact in growth. Stalk is medium large, solid, very crisp, without fiber, and blanches to a medium deep yellow. It is most excellent for early market and shipping. Has a very fine flavor.

WHITE PLUME SELF-BLANCHING (110 Days) — This is the earliest and most easily blanched. The plants grow rapidly and blanch easily during the summer months. Later in the fall the central stalks and leaves are of pure snowy whiteness even without earthing up.

CHICORY

WITLOOF OR FRENCH ENDIVE (140 Days) — Grown for use in salads. Blanched head resembles Cos Lettuce in appearance. The seed planted in the late spring gives parsnip-like roots by late autumn. The roots are then placed in earth where there is some heat, as in the greenhouse, boiler room, or a warm cellar. The root then throws out the blanched salad head.

COLLARDS

TRUE GEORGIA OR SOUTHERN (80 Days) — Plant 2 to 3 feet high, forming a cluster of tender, undulated leaves at the top of its rather long stem; used as "greens" in the south and west.

CORN

See Special Section
Pages 4 and 5

CUCUMBER

CULTURE. For very early cucumbers sow April 10th in hotbed upon pieces of inverted sod so that they can be transplanted without disturbing roots. When the ground is warm transplant into well prepared hills and protect with glass until hardened. For outdoor planting, wait until the ground is warm then sow 10 to 12 seeds in hills 4 to 6 feet apart each way, thinning 3 or 4 plants to a hill after danger from insects is over. Cultivate as long as possible; gather when large enough for use and to keep plants bearing do not allow them to ripen. Number of days is from planting to first picking.

SLICING VARIETIES

A & C, W. S. (68 Days)—Uniform, nearly cylindrical, very dark green, well rounded at ends. Highly desirable for shipping and for market gardens.

IMPROVED LONG GREEN, B. S. (68 Days) — Makes a heavy, long runner growth. Fruit $2\frac{1}{2}$ x 10 to 12 inches, somewhat tapered, inclined to warts, uniform. Color medium dark. One of the best and most dependable croppers under all conditions of weather and soil types.

MARKETER w.s. (65 Days) — Vine vigorous and productive. Fruits 8 inches long x $2\frac{1}{4}$. Slightly tapered, dark green in color. Popular for early market.

HYBRID CUCUMBER — BURPEE'S (68 Days) — A true first generation Hybrid of the white spine type, fruits averaging 8 inches in length and $2\frac{1}{2}$ inches in width. A heavy cropping variety with high resistance to downy mildew and mosaic. Prolific all season long.



PICKLING VARIETIES

CHICAGO PICKLE, B. S. (57 Days) — Highly esteemed by Chicago market gardeners and large pickling establishments. Fruit medium length, square ended, with large and prominent spines. Color a deep green.

DILL

MAMMOTH — Plant 2 to $2\frac{1}{2}$ feet high, with leaves cut into thread-like segments. Seeds very flat, having strong, bitter flavor. Used for flavoring pickles.

EGG PLANT

CULTURE. Treat the Eggplant like a tender tomato that requires even a longer period to mature. After cabbage plants are out of the hotbed or greenhouse, which is April, sow eggplant, keeping even the night temperature above 70 degrees. One ounce of seed gives 2,000 plants, and 4 ounces plant an acre. Transplant later to pots or to a 3- or 4-inch stand, and when corn is shoe high, put eggplant outside on rich, well-drained land. Set the plants 2 feet apart in 4-ft. rows, shading or watering the plants if it is sunny or dry. Number of days given is time required from setting plants to marketable fruit.

BLACK BEAUTY (90 Days) — Fruit is a rich, dark purple, large and symmetrical; early maturity. Holds its color a long time.

HERBS

In borders and irregular parts of the garden it will prove profitable to grow a few herbs. Their use gives new and unusual flavors, pleasing aromas and perfumes and some medicines that are as serviceable as can be purchased. Exact cultural directions suited to them all is impossible. Give them generally the care given vegetables or flowers. Where the foliage is to be used, cut the young stems on a dry day, wilt in the sun, dry in the shade and either hang up in bunches or store in air-tight glass jars.

ANISE—A hardy annual used for medicinal purposes and for seasoning and flavoring.

BASIL, SWEET—An annual used for seasoning sauces, soups and meats.

BORAGE—A hardy annual grown for bee pasture; also used for flavoring.

CARAWAY — In its second year this biennial produces seed for flavoring pastry, etc.

CORIANDER — An annual grown for the use of its seed in confectionery and liquors.

FENNEL, FLORENCE — An annual grown for the blanched base of its stem, which when cooked has a sweet taste, a delicate odor and somewhat resembles celery.

FENNEL, SWEET OR COMMON — Foliage used as a salad and the seed for flavoring.

SWEET MARJORAM — Treated as an annual and the younger foliage used for seasoning.

ROSEMARY — A fragrant perennial used for seasoning and medicinal purposes.

SAFFRON — An annual used for seasoning, coloring and making cosmetics.

SAGE — The well known, hardy perennial used for seasoning.

SUMMER SAVORY — The foliage and flowers of this annual used for flavoring and seasoning.

THYME — The leaves of this perennial are used for seasoning and medicinally.

WORMWOOD — Perennial. A plant of fragrant odor but very bitter taste; leaves used as a tonic.

Grow and Serve Your Own Vitamins!

Beans—Vitamins A, B, C, G
Beets—Vitamins C, G (Greens—Vitamins A, G)
Carrots—Vitamins A, B, C, G
Corn—Vitamins A, B, C, G
Cucumbers—Vitamins A, B, C
Lettuce—Vitamins A, B, C, G, E

Muskmelon—Vitamin C
Onions—Vitamins B, C, G
Parsley—Vitamin C
Squash—Vitamins A, B
Tomatoes—Vitamins A, B, C
Turnips—Vitamin C (Greens—Vitamins A, B, C, G)

ENDIVE

CULTURE. Endive, or winter lettuce, used as a salad, as greens or garnishing, is usually planted one-fourth inch deep in a seed bed in mid-summer, and when convenient after a month transplanted to stand 1 foot apart in 18-inch rows. When almost grown and about 2 weeks before ready to use, it is blanched by tying the leaves together with soft cord, or the blanching is done by turning a flower pot or tile over each plant, or by blanching with earth, like celery. The blanching removes the green plant's acrid taste. The plant may be, but seldom is, used as an early spring crop. Three to five pounds of seed plant an acre. **Number of days is from planting seed to edible stage.**

GREEN CURLED (95 Days) — Plant 16 to 18 inches in diameter, tufty and full in center; mid-rib an inch broad, white, thick, tender and fleshy; blanches readily. Good fall variety.

FULL HEART BATAVIAN (88 Days)—Improved strain of Broad Leaved Batavian, with larger leaf and broader, thicker head at eating stage; earlier in maturity. The plant is medium large with compact, well-blanched heart of infolded broad leaves, thick and buttery in texture.

KALE OR BORECOLE

CULTURE. In Virginia, Kale planted in late August has some of its plants thinned out and sent to market within sixty days and the cutting then continues until the field is clean in April. Further north, kale is treated like a cabbage; that is, planted early in spring in hotbeds or out-of-doors and it is used in the fall when light frosts have improved it. Kale is sown in two and three-foot drills and then thinned to six to twenty-four inches, according to varieties. One ounce sows generously one hundred yards and four pounds plant an acre.

DWARF CURLED SCOTCH (55 Days) — Plant low and compact, but with large, bright deep green leaves, curled, cut and crimped until the whole plant resembles a bunch of moss. One of the best and most dependable types. When well grown and cooked is one of the most palatable of vegetables. Used as greens.

KOHL-RABI

CULTURE. Plant in 18 to 24-inch rows as early as the ground can be worked in the spring, thinning out to stand 4 inches apart in the row. Bulbs should be used when they are 2 to 2½ inches in diameter and cooked same as turnips. Sometimes planted in hotbeds and transplanted for very early maturing Kohl-rabi. One-third ounce plants 100 feet and 4 pounds an acre. **Number of days given is from planting to edible bulbs.**

EARLY PURPLE VIENNA FORCING — Bluish purple, similar to Early White Vienna Forcing except in color.

EARLY WHITE VIENNA FORCING — An extra early variety making bulbs 2-2½ inches. Has very few short leaves. Bulbs are sweet and tender.

LETTUCE

CULTURE. As Lettuce will stand considerable freezing, it may be seeded or transplanted out-of-doors as soon as the soil can be worked in the spring. For a succession, re-plant every 3 weeks till within 60 days of freezing weather. The soil cannot be made too rich and the crop must be grown quickly and unchecked to be of superior quality.

Lettuce is frequently started under glass, like Cabbage in hotbeds; in February transplanted to cold frames and hardened to be set out-of-doors in early April. In more southern or milder winter climates, Lettuce may be sown in autumn, protected with sash or coarse litter, and in late winter planted, trans-

planted or thinned and matured where planted. When the crop is matured under glass it requires much ventilation and little heat and beware of too much water in cloudy weather. In the summer's heat, canvas or a slatted half shade and plenty of water is of value.

One ounce of seed gives 2,000 plants and 3 pounds plants an acre. In the seedbed drop 25 seeds to the foot and gently rake it in; failure may result from too deep a covering. Mature Lettuce in 12 to 18-inch rows, giving the loose leaf varieties 3 to 8 inches in the row, and Head Lettuce 6 to 12 inches. **Number of days given is from sowing seed to marketable crop.**



BIBB, B.S. (58 Days) — A small, early variety of butterhead type, with thick, tender leaves, deep green outside blanching within to creamy yellow.

BIG BOSTON, W.S. (76 Days) — Head of medium size, compact, with creamy yellow heart. Leaves smooth, glossy, wavy at edge and slightly tinged with brown. Quality excellent. A popular variety for outdoor culture.

BLACK SEEDED SIMPSON (46 Days) — Forms large, loose, yellowish-green leaves, crumpled and frilled, exceedingly tender and crisp. Very popular home garden variety as it is very early.

ICEBERG, W.S. (80 Days) — Large curly leaves of bright, light green with a very slight reddish tinge at the edges. The unusual

solidity of the heads is insured by the large, white main ribs of the leaves, each of which curves strongly to the center, making it impossible for the leaves to open outward and expose the center which is constantly and thoroughly blanched.

PRIZEHEAD, W.S. (47 Days) — The name is misleading as it is a non-heading variety. Very early quick growing, making a lot of good eating leaves of excellent flavor. Leaves are light green with very ragged brown edges. A most popular variety with home gardeners.

SALAD BOWL (45 Days)—A new green leaf lettuce. Stands the sun well and is slow to bolt, assuring a long harvest. One plant will fill a salad bowl.

LEEK

CULTURE. This mild member of the onion family is used in soups and salads. Sow one ounce to one hundred feet of row and four or five pounds to the acre, one-half inch deep, as early as the soil can be worked in spring. Thin the plants to a stand of four to six inches in twelve to eighteen-inch rows. It is advisable to throw earth to the plant to blanch it, very much as celery is blanched.

LARGE AMERICAN FLAG — Large, dark green leaves and medium large bulbs on a pure white stem 1½ to 2 inches by 7 inches. Very hardy, productive.

MUSTARD

CULTURE. Mustard is grown for its seed which is used for flavoring or medicinal purposes or grown for its leaf which is used in salad or cooked like spinach. Sow mustard as soon as the soil can be worked in spring and every three weeks for a succession, or in the South it may be sown in the fall for early spring greens. Cover the seed lightly in twelve to eighteen inch drills. Cut the leaf when not over four inches high. Number of days given is from planting to cutting.

FLORIDA BROAD LEAF (40 Days) — Leaf very large, broad, long oval, with a smooth saw-toothed edge and broad white midrib; bright green in color. Makes a strong, quick growth, spreading out somewhat more than other smooth types. Holds well in hot weather. Seed dark brown in color.

SOUTHERN GIANT CURLED (35 Days) — Leaf very wrinkled, blistered and curled at the edges; light yellowish-green in color. Very prolific. Holds fairly well for spring planting but is mainly used in the south as a winter greens crop.

MUSTARD-SPINACH OR TENDERGREEN (30 Days) — Rapid and vigorous growth with comparatively narrow, spoon-shaped leaves of dark green. It will stand longer than most varieties without sending up seed stalks. Combines the flavor of mustard and spinach.

OKRA

CULTURE. The pods of this plant are used in a great number of ways throughout the Southern States, and the plant should be more frequently grown in the North. Plant at corn planting time in rich land, sowing the seed thickly in two to three-foot drills, and thinning to an eight to twelve-inch stand, according to varieties. A generous planting is two ounces to one hundred feet and ten pounds to the acre. Okra seed may be planted six seeds to the hill, two to three feet apart and thinning to two plants to the hill.

CLEMSON SPINELESS (55 Days) — A very uniform spineless strain of Perkins' long podded type. Pods rich green, about 7 inches.

DWARF GREEN (52 Days) — An early dwarf growing sort with dark green, fluted, pointed pods 5 to 7 inches long; quite prolific.

ONION

CULTURE. As soon as the soil can be worked in spring and not after May 1st, sow onion seed in 12 to 15 inch rows, leaving out every 10th row as a weed alley, if preferred. One ounce of seed plants 150 feet and 4 to 5 pounds plants an acre. Seed should be covered firmly one-fourth inch deep. Quantities

of manure had best be applied in the year before the planting and much commercial fertilizer, high in potash, harrowed in immediately before seeding. Begin cultivation as soon as the plant can be seen; cultivate frequently and when convenient thin to a stand of two to four inches.



YELLOW SWEET SPANISH — RIVERSIDE (105 Days) — A large, well shaped onion, weighing from 1 to 3 pounds, unusually mild but still retaining its genuine onion flavor. Planted at the proper time and thoroughly cured it is a good keeper and will ship as well as any other shipping onion. To produce larger size they should be thinned 6 to 8 inches between plants.

YELLOW GLOBE, SOUTHPORT (116 Days) — A large, perfectly shaped globe onion and an excellent one for keeping throughout the winter. A very heavy cropper, a good dark yellow color and handsome in appearance.

WHITE PORTUGAL OR SILVER-SKIN (100 Days) — A medium thick, flat shape when mature, averaging 3 inches; white skin and flesh, sometimes green tinted; thin layers of firm, crisp, fine grained flesh, quite mild in flavor. Skin is fairly tight and tough. Used mainly for growing onion sets and small pickling onions.

WHITE GLOBE, SOUTHPORT (112 Days) — Bulbs round and of good size; solid, pure white skin, thin and brittle. Good for winter storage. Also used by market gardeners for early bunching.

MICHAEL-LEONARD'S NEW BUNCHING ONION — An excellent non-bulbing variety producing an abundance of sweet and tender bunching onions.

YELLOW BERMUDA, STRAW COLORED (90 Days) — A pale or straw colored onion grown extensively in the Bermudas and southern part of the United States for early shipping to northern markets.

ONION SETS

We have grown Onion Sets for 70 years and the knowledge gained in growing, storing, grading and shipping over this length of time assures our customers a superior product.

EBENEZER — A yellow variety of great merit. A heavy yielder and good keeping Onion. Does not run to seed readily.

GOLDEN GLOBE — SEMI-BOTTLE ONION — A rich, golden yellow variety producing oblong-globe bulbs of excellent keeping quality.

WHITE — Grown from White Portugal or White Ebenezer seed. White sets produce the finest early green onions and no garden should be without them.

YELLOW SHALLOTS OR MULTIPLIERS — The clumps are divided and they multiply very abundantly. Are grown largely for flavoring.

PARSLEY

CULTURE. Parsley used for garnishing and for seasoning can be planted as soon as the soil can be worked in spring. Cover the slow germinating seed one-fourth inch deep in 12- to 18-inch rows. One-fourth ounce sows 100 feet and 3 to 5 pounds plant an acre. To improve the appearance of the crop, trim the plants with a sickle 2 or 3 times during their growing season and at the approach of winter transplant to cold frames or a sunny window. Parsley may be mulched with coarse litter and wintered for spring use till the new crop begins.

CHAMPION MOSS CURLED — Leaves are a uniform dark green color, very finely cut and so closely curled as to resemble bunches of moss. One of the most useful and decorative sorts.

HAMBURG OR ROOTED—Mostly grown for the thick, fleshy roots. The roots are nearly white in color, growing about 6 inches long and about 2 inches thick around the neck and gradually tapering toward the base. The flesh is white and somewhat dry. Used for flavoring soups, stews, etc.

PARSNIP

CULTURE. Plant Parsnip seed as early as the soil can be worked in spring and do not cover this slow germinating seed deeper than one-fourth inch. Use 18- to 24-inch rows, thinning the plants to a 4-inch stand. One-half ounce of seed sows 100 feet and 3 to 5 pounds plant an acre. This crop requires the entire season to mature, and as frost improves the roots, they may be left in the ground all winter. Both as to quantities and its feeding values, the Parsnip is a valuable stock feed.

IMPROVED HOLLOW CROWN (Guernsey) — Roots 12 to 16 inches long, white smooth, tender, sugary and of most excellent flavor. Very hardy. Will keep through winter without protection.

Best Times To Harvest

Beans should be tender, from $\frac{1}{2}$ to $\frac{3}{4}$ mature size. Should snap easily with no fibers.

Lima Beans are best just as lower end of pod shows faint tinge of yellow.

Beets can be used at any time. Young plants are fine for greens. Are best when less than 2 inches through.

Carrots can be used from finger size up. Flavor, tenderness usually begin to deteriorate when they grow larger than $\frac{1}{2}$ inches across.

Corn is sweetest when in milk stage. This can be recognized by the silk turning brown and dry.

Cucumbers make best salads when seeds are still immature. Fruits are best about $\frac{3}{4}$ of mature length.

Peas are sweetest just as the seeds reach mature size. Press pods lightly. If seeds feel about same size as the ones you planted, and pod is bright green, it is ready for picking.

Melons should be vine ripened for real flavor. The blossom end should have a soft, springy feel when pressed.

PEAS

CULTURE. All varieties of Peas, regardless of height, may be grown successfully without a trellis or support. As Peas vary in height from 1 to 6 feet, it follows that the distances in the row and apart in the row should vary. Dwarf or half dwarf varieties are best planted in double or companion rows 6 inches apart to support and shade each other in their growth; then leave a space of 18 to 30 inches, according to height of the variety and repeat the double row.

The tall varieties that may be given support are planted in a single row, the space between the rows somewhat less than the height of the variety. Work a good complete commercial fertilizer into the soil then drop 10 to 20 dwarf peas to the double row of 6 to 10 tall peas to the foot of row, using 2 pounds to 100 feet and 150 to 180 pounds to the acre. Plant all Peas about 3 inches deep in soil that has been deeply plowed, which gives the Peas the cool, damp climate they prefer. Lightly harrow or rake the soil when the Peas should be breaking through and continue to cultivate until the vine stops the work.

All Peas stand some frost and may be planted as soon as the soil may be worked in the spring. Peas should be planted frequently for a succession. The early varieties are planted in August for a late autumn crop. For quality's sake pick Peas before they crowd the pod and pick all pods as rapidly as produced to somewhat extend the plants bearing.

NOTICE — The number of days given is taken from our extensive trial ground records. Weather conditions, variations in soil and cultivation, as well as difference in latitude, will make either a longer or shorter period of growth.



SMOOTH SEED

ALASKA WILT RESISTANT H. F. 30 (52 Days) — Our own introduction. This strain is more productive, has better color and flavor. Canning tests made by Wisconsin Experiment Station showed that this strain outyielded the best Alcross strain by 20%, and the canned Peas rated better in color.

WRINKLED SEED

AMERICAN WONDER (57 Days) — Vigorous vines with a luxuriant foliage, 12 to 14 inches high. Dwarf habit of growth makes it very desirable for private garden use. Pods are light colored, straight, round, about $2\frac{1}{2}$ inches long. Seed is wrinkled, green, medium in size.

FREEZONIAN (62 Days) — A uniform Thomas Laxton type. Excellent quality fresh, frozen or canned. Vine 28-30 inches, dark green, vigorous, prolific, resistant to fusarium wilt. Pods dark green, $3\frac{1}{2}$ inches long containing 6-8 medium to dark green large sweet peas.

McLEAN'S LITTLE GEM (62 Days) — Strong and vigorous in growth, producing vines from 22 to 24 inches in height; dark foliage. Pods are almost straight, $2\frac{1}{2}$ to $2\frac{3}{4}$ inches long, light in color and blunt at the ends.

LAXTON'S PROGRESS (58 Days) — Dark green peas, sweet and luscious. The dwarf, vigorous vines average 18 inches in height and carry enormous crops of large, deep bluish-green pods. These measure 4 to $4\frac{1}{2}$ inches long and are tightly packed with 8 to 10 luscious peas.

LITTLE MARVEL (60 Days) — An extra fine dwarf sweet pea. A fine variety for either private or market garden. Height, 16 to 18 inches; foliage and pods very dark green. Pods 3 inches long, nearly round and square ended, containing 7 very dark green peas of high quality. Very productive.

THOMAS LAXTON, Wilt Resistant (60 Days) — A very popular variety. Height $2\frac{1}{2}$ to 3 feet; vine and foliage moderately stout, medium green. Pods medium green, $3\frac{1}{2}$ inches long, straight, nearly round and square ended, containing 7 medium dark green peas of superior quality.

EDIBLE POD

MAMMOTH MELTING SUGAR, WHITE SEED EDIBLE POD (72 Days) — Large edible pods, 4 to $4\frac{1}{2}$ inches long and $1\frac{1}{8}$ inches broad. Vine grows to 48 inches.

PEPPER

CULTURE. The pods of the Pepper are used in sauces, salads, soups or as a seasoning, and the large mild varieties called mangoes are eaten from the hand or variously stuffed and prepared with Cabbage, Tomatoes or meat. The pods of green peppers are green until in ripening they turn red or yellow, according to the variety. Start Pepper in hotbeds, maintaining a temperature of 70 degrees and in other ways treat like a Tomato. Set out-of-doors after frosts in 30-inch rows, giving each plant 18 inches in a row. One ounce of seed gives 2,000 plants and one-quarter pound plants an acre. **Number of days given is from setting plants to ripe fruit.**

CALIFORNIA WONDER (76 Days) — Plant 2½ feet high, medium light green. Fruits are large, 3½ to 4 x 5 inches, squared, usually four lobes, very thick walled, sweet and mild in flavor. From a deep green to a bright red in color.

CAYENNE (70 Days) — A long, slim, pointed pod, bright red in color when ripe, and extremely strong and pungent. Size ¾ to 1 inch in diameter, 5 to 6 inches long.

PIMENTO (75 Days) — Plant 2½ feet; medium dark, upright and very bushy. Fruits 2 x 2½ inches, heart shaped, smooth, without lobes or side ridges, deep green to brightest red. Very sweet and mild and a heavy producer. Excellent canning variety.

WORLD BEATER (73 Days) — Fruits four-lobed, 5 inches long by 3½ inches in diameter; flesh very thick and mild. Exceedingly productive.

PUMPKIN

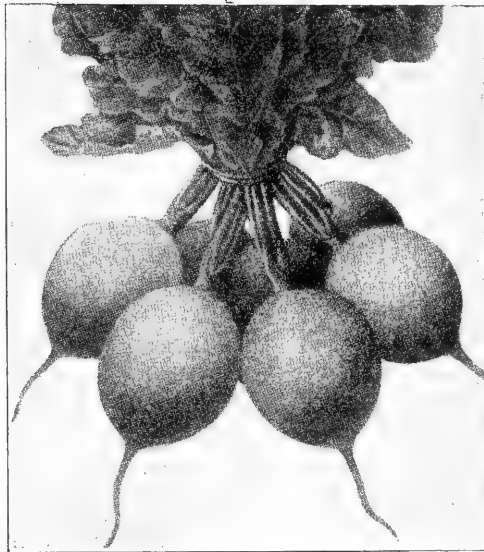
CULTURE. The finer varieties of Pumpkins are used for pies and the coarser ones for stock feeding. While the Pumpkin may be grown very much as Cucumbers are grown in a garden, they are more frequently planted in the field with corn, where several seeds are dropped in each fourth hill. Planted alone, six to ten seeds are covered one inch deep in hills eight to ten feet apart and thinned to two to four plants to the hill. One ounce plants twenty-five hills and two to four pounds of seed generously plants an acre. **Number of days given is from planting to ripe fruit.**

CONNECTICUT FIELD (120 Days) — Standard cornfield variety, producing large, orange colored pumpkins which average 25 pounds in weight, round and flat on ends with smooth, hard rind. Flesh is thick, dry and sweet — fine for canning, stock feeding.

LARGE CHEESE OR KENTUCKY FIELD (120 Days) — Used largely for canning and stock feeding. The fruits are flat, dull orange; flesh yellow, thick, tender.

SMALL SUGAR OR PIE (115 Days) — A small but handsome variety. Shape, round; skin, deep orange colored; flesh, fine grained, sweet flavored. Superior for pies.

RADISH



CULTURE. Plant Radishes on a light soil if a choice is possible and every second week for a succession from the time the soil can be worked in spring till the first light frost. Plant in 12 to 18 inch rows, cover the seed one-half inch deep and permit ten radishes to grow to the foot; use 8 to 12 pounds of seed to the acre. Radish seed, which germinates quickly, may be sown with some slow germinating seed so that the cultivation of that crop may begin earlier, or radish may be grown between the rows of some slow growing crop that later requires considerable space. **Number of days given is from planting to roots of bunching size.**

CHERRY BELLE (22 Days) — A very early short top variety, well adapted for greenhouse or hotbed forcing. Shape, globular, small uniform, with a very fine root. Color, cherry red of a medium shade.

COMET (23 Days) — Tops are short. Stands unusually long before becoming pithy. Bunches well. Shape, short oval, smooth. Color, rich scarlet; flesh white, crisp, mild.

FRENCH BREAKFAST (25 Days) — Popular home garden and early market variety. Tops medium small; roots 1½ to 2 inches long, thicker towards bottom, scarlet with white tip; flesh white, crisp and of excellent quality.

WHITE ICICLE (27 Days) — Without doubt the finest early white variety. Very popular with home gardeners. Tops medium; roots 5½ to 6 inches long, tapering, pure white, very crisp and mild.

WHITE TIPPED SCARLET TURNIP (25 Days) — One of the hand-somest of turnip radishes and a great favorite in many large markets for early planting outdoors. Roots slightly flattened on the under side; color very deep scarlet with white tip; flesh white and of best quality.

WINTER VARIETIES

The winter Radish is sown at late turnip planting time and used in the autumn or stored for winter like the turnip.

LONG BLACK SPANISH (62 Days) — One of the best winter varieties. Tops large and heavy; roots 7 to 9 inches long, 2 inches in diameter and tapering to a point; skin black; flesh white, very firm and pungent.

ROSE CHINA WINTER (53 Days) — Roots cylindrical or largest at the bottom, tapering abruptly to a small tip; skin very smooth and of a bright rose color; flesh firm, crisp and tender, quite pungent.

Be KIND To Your Garden Tools!



Well-kept tools are a gardener's best friend. So treat 'em right! Remember: clean, sharp spades and hoes make gardening enjoyable and easy. Any tool which comes in contact with the soil should be cleaned after each job. Soil will adhere to a dull and rusty tool. An oily rag may be run over the blades and handles and the metal parts rubbed dry with a rag.

Hang tools up, each in its place, when not in use. Handles are roughened and edges dulled if tools are not placed in special racks.

Don't allow water to stand in your garden hose, especially during the hot summer months. This is most harmful. When the water gets hot, the rubber rots and hardens on the outside, which shortens its usefulness.

Wash out all sprayers with clean water after use. Nozzles should be examined to get out any particles of grit which are bound to choke it.

If you use a rubber bulb syringe spray, examine it frequently for grit and keep it away from hot sun or steam pipes. In spraying equipment, the leather washer in the pump needs frequent attention. Remove this washer, clean and oil it frequently. Examine all the attachments to the sprayer to be sure that they don't leak air.

Always use good quality tools and always keep them clean and in the best condition.

SALSIFY or VEGETABLE OYSTER

CULTURE. Salsify succeeds best in a light, well enriched soil, which should be stirred to a good depth. Coarse and fresh manure should be avoided as it will surely cause the roots to grow uneven and ill-shaped. Sew early and quite deep, giving the general culture recommended for Parsnips. The roots are perfectly hardy and may remain out all winter. Store a quantity for winter use in a pit or cellar in damp earth or sand.

MAMMOTH SANDWICH ISLAND

—Roots 7 to 8 inches long, 1 to 1½ inches thick; skin almost white; flesh mild and delicately flavored.

SPINACH

CULTURE. As early as the soil can be worked, sow it one-half inch deep in fourteen-inch rows, using one ounce of seed to one hundred feet, and in the second week will appear a tiny plant with two very narrow leaves that do not resemble the true leaves that follow. Cutting should begin forty-five days from sowing. It is impossible to put spinach on too rich soil, and nitrate of soda is used on it with profit.

AMERICA (48 Days)—A new variety from a cross between Viking and Bloomsdale Long Standing. Leaves dark green, savoyed and thick. Withstands heat better than others of this type and is slower to bolt.

GIANT NOBEL THICK LEAF (42 Days)—Plants large, vigorous and slow to run to seed. Very heavy yielder. Leaves medium green, thick and tender. The best thick leaved variety.

KING OF DENMARK (44 Days)—The best long season spinach, remaining two weeks longer than others before bolting to seed. Plant vigorous and spreading; leaves large, rounded, crumpled and blistered, deep green in color.

NEW ZEALAND—This branching plant—a spinach in its use but not in its growth—frost-kills but grows luxuriantly in the summer heat. Plant these large seeds three in a hill, 3 x 2 feet apart or start the plant under glass and transplant.

SAVOY LEAVED BLOOMSDALE (39 Days)—One of the best to plant in autumn for early spring use. Plant of upright growth with narrow, pointed leaves, which are curled like those of the Savoy Cabbage. It grows quickly to suitable size for use but soon runs to seed.

SQUASH

CULTURE. The directions for the planting of Cucumbers can be followed with slight modifications for Squash or Cymling. Plant the Summer Squash in hills 4 feet apart and use before mature. Plant the Winter Squash in hills 6 to 8 feet apart; handle without bruising and store in a dry, moderately warm place for

winter. Plant the seed generously and thin to 2 or 3 plants to a hill. One ounce of seed plants 25 hills and 2 to 4 pounds plants an acre. The Squash is recommended either for the table or the feed lot. Number of days given is from planting to ripe fruit.



SUMMER VARIETIES

SUMMER CROOKNECK (50 Days)—A standard early and productive summer variety. Fruits about a foot long, moderately warted and of a bright yellow color.

EARLY WHITE BUSH, SCALLOPED (55 Days)—Also called Cymling and White Patty Pan. It is the most popular of the white summer types of squash. The fruits are rather small, quite flat with ridged or scalloped edges. The vines are extremely prolific and disease resisting.

ITALIAN VEGETABLE MARROW (60 Days)—A distinct variety of squash of bush form. Fruit grows to length of about 20 inches, with diameter of 3 to 4 inches; skin smooth, dark green, marbled with yellow or paler green. All through Italy, where the squash is grown, the fruits are eaten when quite young, sometimes even before the flower has opened.

ZUCCHINI, SMALL SHORT COCOZELLA (60 Days)—Fruit weigh 3 to 4 pounds, nearly cylindrical,

straight. Color medium green mottled, with stripes; flesh very firm and of delicate flavor.

WINTER VARIETIES

ACORN, OR TABLE QUEEN (90 Days)—A trailing variety producing acorn-shaped fruit with a thin, distinctly ribbed, dark green shell; 6 inches long by 4½ inches in diameter. Flesh light yellow and bakes well.

JUMBO OR MAMMOTH TABLE QUEEN (95 Days)—Fruits are 7-8 inches long and 5 to 5½ inches in diameter, weighing 2 to 3 lbs. Flesh is medium thick, pale orange, tender, dry, sweet, flavorful.

BUTTERNUT (90 Days)—Fruits 8" to 10" long, bulbous at blossom end. Rind thin and tough, creamy yellow in color. Flesh very thick, fine grained, nutty and of excellent quality.

WARTY HUBBARD (100 Days)—Somewhat larger than well-known Hubbard. Of equal quality but more heavily warted. Shell is very dark green, almost black.

POWER-PAK*

* Exclusive Michael-Leonard Chemical Formula, available only on Michael-Leonard Seed. POWER-PAK gives you better stands, faster growth rate, greater yields, higher quality.

TOMATO

CULTURE. This crop responds well to fertilizer and soil should be enriched with complete fertilizer before planting. The Tomato requires one hundred days or more to mature from seed.

As Tomatoes are killed by other than light frost, early Tomatoes should be started in hotbeds 2 months before they may be transplanted out-of-doors. Three weeks later these plants may be potted or given a space of 4 by 4 inches in the hotbeds. Before setting in the field, the plants should be gradually exposed to the outside conditions and the quantity of water given them decreased. Transplant on a cloudy day if possible, and water freely. Nitrate of soda may be given each plant at this time with profit.

A space of 4 by 4 feet should be given each plant in the field or more for robust varieties, except that where they are carefully pruned and trained, which is unnecessary, they may be planted as close as 2 by 2 feet. One ounce of seed gives 2,000 plants. **The number of days given is from setting plants to ripe fruit.**

Tomatoes may also be seeded direct in April. Drill seed about an inch apart in the row and plant a little Cabbage seed to mark rows for early cultivation. Thin after frost danger.

BEEFSTEAK OR CRIMSON

CUSHION (90 Days)—A wilt resistant, late, main crop variety for home and market garden use. Plant open in habit of growth, heavy, rather light green, vigorous. Fruits large, flat, scarlet, smooth.

EARLIANA (65 Days)—A very popular early home garden variety. Fruits flattened, medium in size, deep-scarlet red, firm and fairly smooth.

JUBILEE (72 Days)—Fruits are bright, golden orange, deep globular, firm; the orange colored flesh is mild but of definite flavor and really delicious. Makes delicious juice. Ready in about 72 days after plants are set out in the garden.

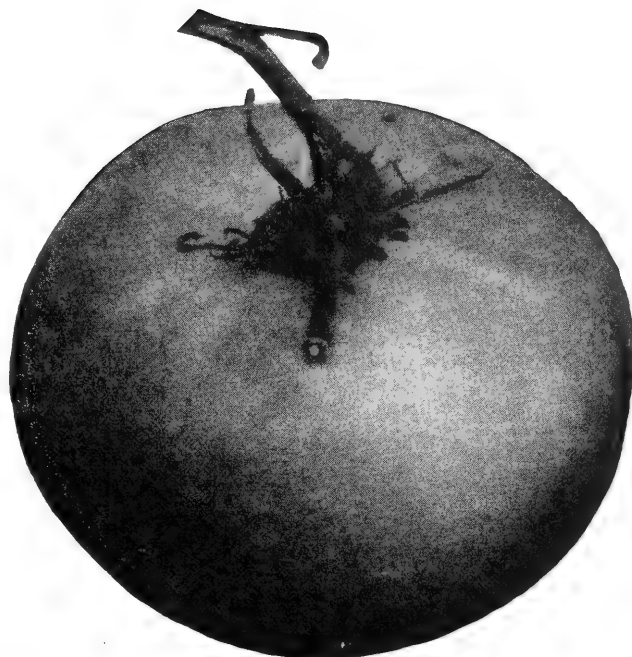
MARGLOBE (80 Days)—Resistant to nail-head rust and fusarium wilt. Large, perfect globe-shaped fruits of a beautiful scarlet color. Its spreading habit of growth enables it to bear abundantly.

PONDEROSA (87 Days)—A purplish-pink tomato of largest size. Vine vigorous and very productive; fruit very solid, fairly smooth and of good quality.

RUTGERS (72 Days)—Introduced by the New Jersey Agricultural Experiment Station. Fruits medium to large, similar in shape to Marglobe but slightly more flattened. Highly recommended as a second early maturing variety for canning and tomato juice.

STOKESDALE (72 Days) — An attractive second early variety. Fruits smooth, almost globe shaped; large pulpy core, solid flesh, free from cracking, good red color. Vines medium sized, coarse foliage, medium green, productive.

HYBRID TOMATO — STOKES-CROSS NO. 4 (75 Days)—A brilliant F2 cross, medium early, bright red and very productive. High yielding and best in quality.



SMALL FRUITED VARIETIES

RED CHERRY (75 Days)—Heavy growth, small leaf, heavy leaf growth, 5-foot vine. Fruits small, ½ to ¾ inch, globe shape, bright red. Grows in clusters and is a heavy producer.

YELLOW PLUM (75 Days)—Like the Red Plum in all ways except color, which is a bright yellow.

TURNIP

CULTURE. In planting, seeds may be broadcast on soils freed of weeds but it is more advisable to sow in 1- or 2-ft. drills, cover less than one-half inch and thin to stand 6 inches apart in the row. Use 1 ounce of seed to 100 feet of row and 2 pounds to the acre. The Turnip requires one-half more seed when broadcast than in drills and a salad Turnip requires one-half more seed than the Turnip sown as a root crop.

PURPLE TOP STRAP LEAF (45 Days)—Tops medium large, upright, strap leaved. Roots 3 to 4 inches, flat, white with purple top. Flesh white, fine grained and sweet. Early variety.

PURPLE TOP WHITE GLOBE (60 Days)—Early, perfectly globe-shaped variety of good size and very attractive appearance. Roots are large, white with purple top. Flesh is white, fine grained, tender. Best for table when about 3 inches in diameter but can be grown much larger for stock feeding. Best variety for market gardeners.

SEVEN TOP FOR TURNIP GREEN — Standard, extremely hardy foliage turnip for table and forage use. Root woody and inedible; crown sends up numerous leafy shoots which are excellent for greens and for stock.

RUTABAGA

CULTURE. Rutabaga, or Swedish Turnip, with their superior keeping qualities, had best be drilled a month earlier than other turnips, given 18 to 30-inch rows and thinned to stand six to twelve inches apart in the row.

AMERICAN PURPLE TOP, IMPROVED (90 Days)—Tops large, upright; roots 5 to 6 inches, yellow with purple top; flesh pale yellow, fine grained, sweet and tender.

WATERMELON

CULTURE. For watermelon, follow our cultural directions for cucumbers, except that it is necessary to give the watermelon a space of eight to ten feet between hills, and thin the plants to two to the hill. One ounce plants twenty-five hills and three pounds of seed plant an acre. **Number of days given is from planting to ripe fruit.**

CONGO (90 Days)—An Anthracnose resistant variety, originally developed to permit normal development in the Gulf Coast and Southeastern states. Yields well and has nice marketable fruits. A good shipper, not resistant to wilt and mildew. All America Selection B.M. 1949.

DIXIE QUEEN (85 Days)—Fruit round or blunt oblong, grey with prominent dark green stripes. Flesh richly colored, firm, sweet and juicy, with very small white seeds. Good shipper.

FLORIDA GIANT, Black Diamond or Cannon Ball (95 Days)—Fruits dark green, nearly round; flesh firm and red; of excellent quality. Ships well and is one of the best all-purpose varieties. Seed with heavy dark brown flecking on tan ground. Weight about 40 lbs.



Ageratum

Alyssum

Carpet Snow
Little Gem
Violet Queen
Royal Carpet

Aster

American Beauty Crimson
American Beauty Mixed
American Beauty Rose
Finest Mixed

Bachelor Button

Jubilee Gem
Mixed

Balsam, Double

Black-Eyed Susan (Thunbergia)

Blue Lace Flower

Calendula

Double Mixed
Orange King

Calliopsis

Candytuft

Canterbury Bell, Perennial

Cardinal Climber

Carnation

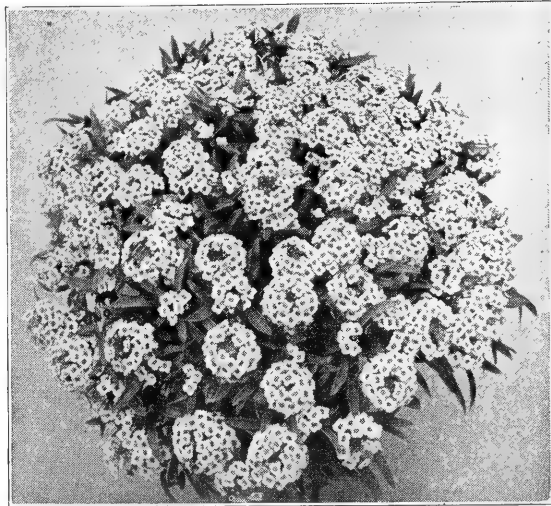
China Pinks (Dianthus)

Clarkia, Double Mixed

Celosia (Cockscomb)

Celosia Toreador

Coreopsis



ALYSSUM

Cosmos

Early
Orange Flare
Radiance
Sensation Mixed

Cypress Vine

Dahlia, Single

Daisy

African
Painted
Shasta, Large White

Delphinium

Mixed
Pacific Giants

Four O'Clock

Fox Glove (Digitalis)

Gaillardia

Godetia, Double Mixed

Gourds, Ornamental

Grandmothers Flower Garden

Gypsophila

Baby Breath
Rose

Hollyhock, Double

Hyacinth Bean

Larkspur

Imperial
Regal Mixed
Tall Stock Flowered

Linaria, Mixed

Lobelia, Dark Blue

Lupins Annual Mixed

Lupins Blue Bonnet

Marigold

Crown of Gold
Dwarf French Mixed
Guinea Gold
Mammoth Mum
Sunset Giants
Tall African

Mignonette

Moonflower

Morning Glory

Darling
Heavenly Blue
Mixed
Pearly Gates
Scarlet O'Hara

Moss Rose

Double
Single

Mourning Bride

Nasturtium

Dwarf
Glorious Gleam, Double
Golden Gleam, Double
Scarlet Gleam, Double
Tall

Nicotiana, Mixed

Pansy

Masterpiece
Trimardeau Mixed
Swiss Giants

Petunia

All Double America
Balcony Mixed
Blue
Comanche
Fire Chief
Fluffy Ruffles
Howard Star
Hybrida Mix
Prima Donna
Rose of Heaven
White

Phlox

Drummondii
New Art Shades
Star

Poppy

California
Iceland
Shirley Double
Shirley Single



FOUR O'CLOCK

SEED

Ricinus, Castor Bean
 Salpiglossis, Mixed
 Salvia Splendens Bonfire
 Scarlet Flax
 Scarlet Runner
 Snapdragon, Rust Proof
 Stocks
 Evening Scented
 Mixed

Strawflower
 Sunflower, Ornamental
 Sweet Peas
 Spencer Blue
 Crimson
 Cuthbertson
 Finest Mixed
 Lavender
 Orange
 Pink
 Rose
 White

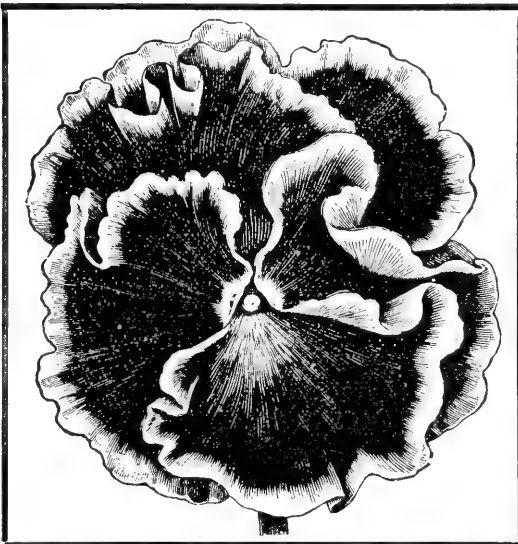


ZINNIA

Sweet William
 Tithonia Torch
 Verbena
 Mammoth Blue
 Pink Rose
 Mixed

Zinnia

Blaze
 Burpee Hybrid
 Crimson Monarch
 Dahlia Flowered Mixed
 Daffodil Yellow
 Dream Lavender
 Exquisite Pink
 Giants of California Mixed
 Haageana Double Mixed
 Orange King
 Peppermint Stick
 Persian Carpet
 Pompon, Lilliput
 Royal Purple



PANSY



HI-PRESS PEAT MOSS

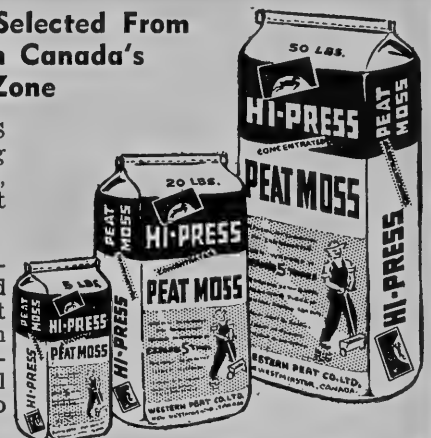
- For Making New Lawns
- Rejuvenating Old Lawns
- Flower Beds and Shrubs
- Window Boxes, Rockeries
- Greenhouse Work

HI-PRESS PEAT MOSS is easy to pour, easy to mix, easy to spread. Concentrated and granular, it pours freely from bag — spreads quickly, evenly by hand or fertilizer spreader. Mixes easily, uniformly with the soil.

**A Pure Sphagnum Moss—Selected From
 The Finest Peat Bogs In Canada's
 Cool Temperate Zone**

Then, when watered, HI-PRESS expands 5 times, rapidly absorbing moisture to return to original, fluffy fiber of natural, spongy peat moss.

HI-PRESS is the ideal soil conditioner and mulch! Compressed granules do not blow away, but settle right down into the grass. In easy-to-use bags, up to 50 lbs. (Approximately 12 cu. ft. of natural moss compressed and packed into 50-lb. bag.)



ACME PESTICIDES for Garden and Home Surroundings

WEED-NO-MORE 14—POSITIVE ACTING 2, 4-D. Rids lawns of dandelion, plantain, chickweed, black medic, ragweed, and buckhorn. Use with handy Weed-No-More plastic sprayer—fits standard screw top gallon jug.

ACME GARDEN GUARD—SAFE ON GARDEN VEGETABLES right up to picking time without fear of harmful residue. 1% Rotenone is the active element. Use on beans, cabbage, currants and many other vegetables, also flowers.

ACME ALL ROUND BOMB — SELF SPRAYER PACKAGE. A new Acme formulation for control of a variety of insects attacking flowers and plants both indoors and outside. Use on African Violets, Azaleas, Begonias, Camellias, Carnations, Dahlias, Geraniums, Roses, Tomatoes, and others.



ACME ALL ROUND PUMP GUN — DUST AND DUSTER ALL IN ONE. A handy, efficient pump gun package filled with a combination of insecticides and fungicides for control of common insects and plant diseases. Effective on flowers, vegetables, bush fruits.

ACME ALL ROUND SPRAY — SPRAY OR DUST POWDER. A fruit spray—a flower spray—useful on vegetables—truly an All Round Spray. Ideal for the amateur who wants high grade protection without the necessity of using a number of specific controls for various pests.

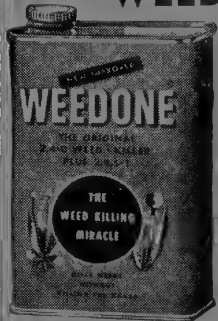
ACME WEED KILLER — KILLS PLANT LIFE — STERILIZES SOIL. An arsenical weed killer, powerful and quick acting. Destroys weeds and unwanted vegetation on driveways, parking areas, clay courts, paths, fence rows, etc. Will not stain stone or concrete. 1 gallon covers 450 square feet.

ACME TOMATO DUST — TOMATOES REQUIRE SPECIAL TREATMENT. Formulated to avoid injury to plants. Controls early and late blight as well as hornworm, fruit worm and flea beetle.

ACME 6% CHLORDANE DUST — A SURE ANT KILLER. On lawns—for ants, chiggers, chinch bugs, grubs and sod webworm. In gardens—for cutworms, earwigs, millepedes and leaf-cutting ants. In the soil—for wireworms, white grubs and root maggots.

Also: Pestroy; Dimite; 5% Lindane Spray; Acme Emo-Nik; Lime Sulphur (Dry); Paris Green; —and the complete line of ACME Products

WEEDONE



The
Weed
Killing
Miracle

Kills Over
100
Weeds and
Woody Plants

WEEDONE contains the low-volatile butoxy ethanol ester of 2, 4-D and 2, 4, 5-T. Kills wider variety of weeds and woody plants than any product containing only one of these chemicals. No vapor injury to nearby susceptible plants. Kills dandelions, plantains, poison ivy, poison oak, brambles, etc. Does not kill grass. Harmless to people and pets.

WEEDONE CRAB GRASS KILLER

A really superior product for control of crab grass and chickweed. Contains potassium cyanate and MCP. Also kills such lawn weeds as dandelion, plantain, buttercup, heal-all, purslane, veronica, pennywort and wild carrots without killing the grass or clover. (If only broadleaf weeds are to be controlled, use Improved WEEDONE.

F & B PRODUCTS

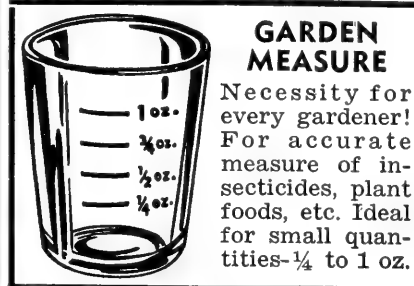
Nationally-known, high quality protective chemicals.

WEED KILLER — SODIUM ARSENITE SOLUTION. All purpose, non-selective; kills all weeds, grass seeds, etc. Easily applied on paths, driveways, tennis courts or anywhere that weeds and grass are not wanted. Do not use on lawns or in gardens.

POTASSIUM CYANATE CRAB GRASS KILLER — To eliminate crab grass and chickweed from lawns without killing clover, blue grass, fescue, etc. A new herbicide containing 77% plus of Technical Potassium Cyanate powder. Easy to use, harmless to soil.

TOBACCO DUST — Contains 1% nicotine, ground to 40 mesh fineness; old time favorite for insect prevention in the ground and around roots.

Also; Lime Sulphur Solution; Dormant Spray; Fruit Tree Spray or Dust; Vegetable Dust or Spray; Chlordane 5% Dust; Rooticate.



GARDEN MEASURE

Necessity for every gardener! For accurate measure of insecticides, plant foods, etc. Ideal for small quantities— $\frac{1}{4}$ to 1 oz.

SCIENCE Products



For better, scientific gardening, use these top-quality, nationally-advertised products.

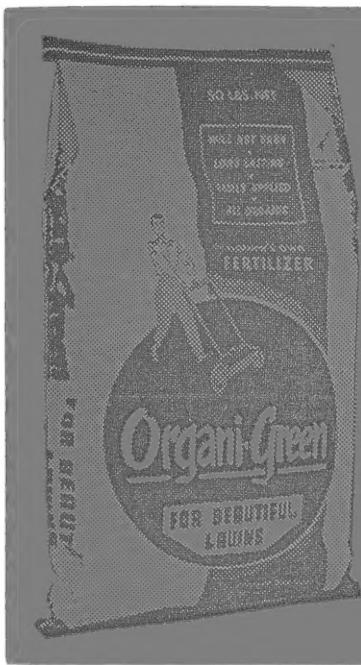
BLOSSOM-SET—Most advertised hormone spray for setting tomatoes. Stops blossom-drop; makes blossoms set fruit. Tomatoes ripen weeks earlier! More, larger, tastier, fruits. Many **SEEDLESS!**

STOP-GRASS — The Chemical Grass Trimmer! Just spray on grass edges. Keeps grass short for **MONTHS** after a single spraying.

BERRY-SET — Makes strawberries grow bigger; larger yields; better-tasting; ripen over longer time. Recommended by Michigan State College. For blackberries, raspberries, too.

ARAMITE-15W — Most effective miticide. Controls **RED SPIDER**, other mites, on **ROSES, EVERGREENS**, nursery stock, flowers, shade trees, tomatoes, beans. Safe, effective, easy-to-use.

Also: 45% Chlordane-45; 5% Chlordane Dust; 2% Chlordane Spray; 5% Lindane Spray.



Organi-Green

FOR BEAUTIFUL LAWNS.

- KILN DRIED SLUDGE
- WILL NOT BURN
- LONG LASTING
- EASILY APPLIED
- ALL ORGANIC
- ECONOMICAL—50-lb. bag covers 500 square feet

Organi-Green will establish thick, green, velvet like lawns, beautiful blooms in your flower beds, superb vegetables in your garden and luxuriously strong shrubs and trees.

Organi-Green a natural organic plant food, contains all of the basic and vital elements necessary to fertilize and strengthen your lawns and plants.

Organi-Green is a long lasting plant food, that promotes steady, healthy, uniform growth. Its water-insoluble elements are released slowly and provide food to the plants as needed. Lawns grow thicker and stay green longer, flowers, shrubs, vegetables, trees and all other plants grow strong and beautiful.

Organi-Green scientifically produced is pure, has no objectionable odor, is free of weed seeds and harmful bacteria, and is guaranteed not to burn your lawn.

Organi-Green is easy to use. It spreads easily, will not blow away. It never cakes or hardens so it can be stored for future use. Full instructions for use of Organi-Green are printed on every bag.

STIM-U-PLANT

AFRICAN VIOLET FOOD — This favorite of professional and amateur growers. Formulated expressly for African Violet use.

PLANT TABLETS—Easiest, most practical to use all purpose plant tablet. Guaranteed results for house and garden plants, flowers and shrubs.

POTTING SOIL — A rich, fresh loam scientifically prepared with the right amount of organic matter to make a ready-to-use rich soil . . . makes all plants grow and bloom.

AFRICAN VIOLET SOIL — In colorful plastic bags. "Special" soil prepared for this particular plant to insure maximum growth and blooming.

ROSE FOOD — Feeds both new roses and established bushes. Formulated strictly of balanced organic ingredients.



D-LEET

Kills weeds without damage to established clover or desirable grasses. Contains new, highly effective MCP. Easy to use, economical, mixes with water.

KRILIUM

Soil Conditioner

For lawns and gardens, with MER-LOAM special formulation. Makes clay, other hard-packed soils easy to work. Allows plant roots to grow and breathe. Makes fertilizers more effective.

BOGEY

Dust or Spray . . .

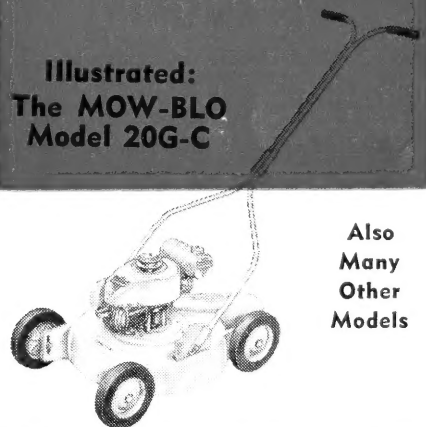
Comes in own handy, economical dust gun. Use as dust or mix with water for spraying. Controls most common insects and plant diseases.

BLACK LEAF 40

Premier "contact" insecticide, kills by fumes and contact. Controls a host of insects that infest gardens, ornamentals, fruits, causing curled leaves, stunted plants, damaged blooms. Spares insect predators such as ladybird beetles. Compatible with other insecticides; easy to mix. (Also controls poultry lice.)

SENSATION MOWERS

Illustrated:
The MOW-BLO
Model 20G-C



Also
Many
Other
Models

CRAG

New, valuable aid for control of Crabgrass. Easily applied to lawns with garden hose sprayer. Prevents crabgrass by killing crabgrass seeds as they germinate. Prevents weeds in vegetables, flowers, shrubs, hedges, etc.



Most outstanding line of quality mowers! Both gas and electric models; 16 to 30 inch sizes. Powerful, economical motors; practical design; sturdy construction; easy to handle. Many desirable attachments: grass-catchers, leaf grinders, etc. WRITE FOR ALL DETAILS. FREE LITERATURE!

SPRAYERS FOR EVERY PURPOSE!



HUDSON Sprayers and Dusters

COMPRESSION SPRAYERS—Sturdy, dependable, practical in design. Many models, for farm, commercial, home-gardener use. Up to 4 gal.

FLAME SPRAYERS—Provides intense 2000° flame, 15" to 18" long. Burn kerosene, stove oil or distillate. Kill weeds, disinfect, thaw, etc.

BAK-PAK SPRAYERS—Carry on back like knapsack! Easy to use; continuous high pressure. For killing weeds, brush; livestock; white-washing; etc.

TROMBONE SPRAYERS—Special design, for easy spraying of trees, vines, plants, etc.

PORTA-SPRAYERS—Pressure tank mounted on single-wheel, barrow-type portable frame. Pump attached. Popular with market growers, farmers, many others.

POWER SPRAYERS—Wheeled; heavy, durable construction; gasoline and electric powered. Many models, for home-gardeners, farmers, nurserymen, market growers.

HUDSON makes one of the most complete lines, all types, including Hand Sprayers, Dusters, etc. Ask your Dealer for details.

KILLER KANE

Clever, new products kills weeds with a squirt! Handy "bulls-eye" spray-tube, approx. 3' long. Just set tip on ground, press down. Powerful spring-piston action does work. You just guide wand-type nozzle!

BROWN SPRAYERS

We carry the complete line of Sprayers and Atomizers manufactured by E. C. Brown Company. A sturdy, top-quality line, these Sprayers feature hot dip galvanizing in construction. Various capacities, up to 4 gal.

**Open-Hed Type
Funnel-Fill
Continuous Atomizers
Single-Action Atomizers
Bucket Pump
Hand Dusters**

Ask your Dealer for details.

BRADSON SPRAYERS

These handy sprayers are attached to hose. Mason jars contain choice of insecticide, fungicide, weed killer, soluble fertilizer—liquid or powder. Water pressure does work!

**Insect-O-Gun
Gard-N-Gun
Gro-Gun
Bug-Gun**

Ask your Dealer for details.

VERTAGREEN



Complete plant food, scientifically prepared. For lawns, shrubs, flowers, fruits, trees, vegetables. Clean, odorless, easy to use.

MANURE

COW MANURE—Prepared from selected crude manure gathered from brick-paved stockyard pens. Dehydrated and sterilized; carefully screened; weed-free. Best natural plant food and soil conditioner.

SHEEP MANURE—Supplies soils with humus and essential food elements, aids drainage, etc. Promotes growth and appearance of lawns, shrubs, trees, plants, flowers, vegetables. We carry top-quality, nationally-known brands.

POPULAR FERTILIZERS

BONE MEAL—Pure steamed, guaranteed 2.47% Nitrogen, 23% Total Phosphoric Acid. A favorite organic slow-acting fertilizer for bulbs, perennial plants, trees, flowering shrubs and for all year round lawn application. Particularly effective in stimulating strong root.

15-30-15 STARTER-GROWER—Completely mineralized, all soluble plant food for vegetables, fruits, trees, shrubs, house plants, seedling transplants, etc. Applied as a solution—watering potted plants; watering plants at transplanting time; sidedressing to vegetables planted in rows or on transplanted plants as an additional food.

BROADLEAF HIGH ORGANIC 6-10-4—A 33-1/3% organic completely mineralized fertilizer for acid-loving plants—Azaleas, Rhododendrons, Gardenias, Laurel, Heath, Holly, Yew, Viburnum, Andromeda, Blueberry, Magnolia, Dogwood, Hemlock, Black Alder.

F&B FERTILIZERS



ROSE FOOD 8-10-14—Specially compounded to contain 50% organic matter for the discriminating rose fancier and grower. Completely mineralized, 100% plant food carrier, no fillers; encourages brilliant colors, vigorous foliage and resistance to disease.

WATER-SOLUBLE FERTILIZERS

FOLIUM

Adds extra growing power to lawn, flowers, shrubs, garden. Ideally balanced. 20% nitrogen for thick, green foliage; 20% phosphorous for strong roots and rapid growth; 20% potash for resistance to disease. Hose attachment assures correct mixing, easy use.

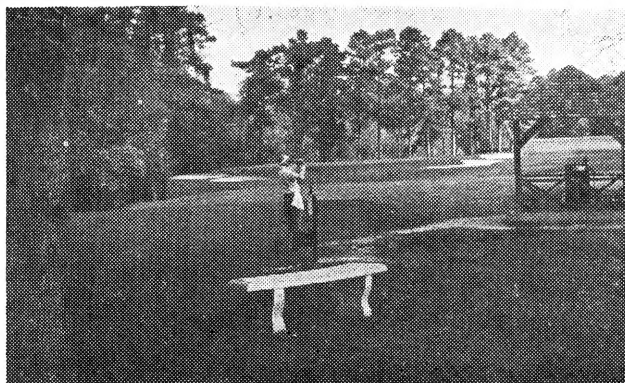
RA-PID-GRO

Complete, easy-to-use. Dissolves instantly in water. Contains 23% nitrogen, 21% phosphoric acid, 17% potash plus essential minor elements. For better, faster growth.

GARDEN-LIFE

Most powerful plant food available! (Formerly sold under the name Take-Hold Plus.) Is instantly soluble; has 79% total plant nutrients, plus root-developing hormone. For transplants, garden and house plants, trees, etc.

Plant Your Lawn In Beautiful, Vigorous



Planting and Care

For best results average sowing requires about one pound of MERION for 750 sq. ft. After sowing, seed should be covered with not more than $\frac{1}{4}$ inch top dressing of good quality. Top dressing may be rolled with a light (avoid heavy) roller. Newly-seeded MERION lawn should be kept moist 25-30 days, period required for germination. Apply balanced plant food in spring, summer and fall. Best time to plant: mid-August; second best: early spring.

MERION BLUE GRASS

Take a tip from the finest golf courses: for a thick, hardy, dark-green lawn that will crowd out weeds and take many years of close mowing — choose Michael-Leonard's MERION BLUE GRASS! Originally discovered growing on a golf course near Philadelphia, it was carefully developed, over a period of years, by the U. S. Golf Association and the Dept. of Agriculture. Here are the outstanding merits of this fine grass:

- Makes better turf in quality and appearance
- Resists weeds better, particularly crab grass
- Withstands closer mowing than Kentucky Blue-grass
- Needs less mowing because of spreading growth
- Resists disease, stands heat and drought better
- Has beautiful deep green color which it retains all summer
- Highest rating at turf trials

TIPS On Building New Lawns and Rejuvenating Old Ones



1 SELECTING THE SEED—WHEN TO PLANT

First, to assure best results, be sure to choose good, clean, solid seed, not chaff, weeds or cheap seed. Michael-Leonard's Grass Seed Mixtures (see back page) are top quality. For best results, seeding should be done in the fall or early spring. However, lawns may be seeded almost any time during spring or summer, with satisfactory results.

2 SEEDING NEW LAWNS

When making a new lawn, spade and pulverize the ground thoroughly. Rake the soil fine and smooth. At the same time, it is advisable to work in a good fertilizer (such as Organi-Green). Then plant Michael-Leonard's Lawn Seed. Rake in thoroughly. Keep well-watered. Roll occasionally, to pack dirt down around roots and prevent their drying out in hot weather.

3 FILLING IN

When filling in a lawn or top dressing, be careful the dirt does not contain weed seed. For a light top dressing, it is better to use Organi-Green, processed manure, or Peat Moss—rather than dirt which may contain weed seed. (Most dirt taken from prairies or vacant lots contains much weed seed. Consult your Michael-Leonard Dealer for good grade dirt.)

HOW MUCH SEED TO USE

Amount of seed (average) for 1000 sq. ft.

	Start- ing New Lawn	Improv- ing Old Lawn
Merion Blue Grass	1½ lbs.	1 lb.
Michael-Leonard's Finest	3-5 lbs.	2-3 lbs.
Chicago Parks	4-6 lbs.	2-3 lbs.
Green Manor	5-7 lbs.	2-4 lbs.
Quick Grow	6-8 lbs.	4-5 lbs.
Shady Nook	4-6 lbs.	2-3 lbs.

EXAMPLE:

How To Figure Lawn Areas

Lot size: 100' x 75'.....7500 sq. ft.
Less space taken up by
house, driveway, walks,
garden, etc. (one-third).....2500 sq. ft.

ACTUAL LAWN AREA

TO SEED5000 sq. ft.

Approximate seed required to start a new lawn on this size lot: 25 lbs. of Michael-Leonard Lawn Seed and 100 lbs. of fertilizer. (Use one-half these amounts for rebuilding existing lawns.)

4

REJUVENATING OLD LAWNS

To re-seed old lawns, rake hard and thoroughly. Get all dead grass and leaves away from roots of old grass; then sow seed and rake thoroughly. Top dress lawn with a good fertilizer.

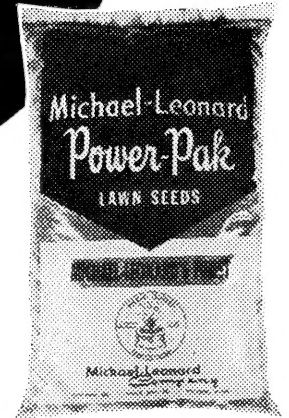


here's how
to have a
beautiful
lawn -

Select YOUR SEED

FROM THESE *Superior*

MICHAEL-LEONARD BRANDS



MICHAEL-LEONARD'S FINEST

Michael-Leonard's Finest is all that the name implies—a skillful blend of the choicest grasses with 40% high grade Merion Blue Grass, Fancy Red Top, Creeping Red Fescue and Highland Bent Grass combined to produce a luxurious thick, long lasting lawn. Michael-Leonard's Finest is composed entirely of pure seed of the permanent grasses—no coarse grasses used, more seeds per pound with Michael-Leonard's Finest. Gives you 2 to 3 times greater coverage than the ordinary mixtures containing the coarser seeds. Treated with Michael-Leonard's exclusive Power-Pak Seed Treatment — with Grass Booster added for faster vitalized growth.

CHICAGO PARKS

This high-grade mixture has a legion of satisfied users. A perfect combination for building a new permanent lawn of luxurious velvety green. Especially adapted for the North Central States and well adapted for rebuilding an established lawn.

GREEN MANOR

A popular-priced mixture giving excellent results, and a mixture that we do not hesitate to recommend. This is a good all-purpose mixture containing all the essential grasses for a good, permanent lawn.

POWER-PAK* with Grass Booster

Save Money! Save Time! Save Work! Be assured of Vitalized Growth for a good, permanent, velvety lawn. Plant Michael-Leonard's POWER-PAK'D lawn seed. Highest quality seed plus this Chemical formula. POWER-PAK with Grass Booster added, assures you of complete satisfaction. POWER-PAK'D lawn seed with Grass Booster added is sold only through Michael-Leonard dealers.

QUICK GROW

Lawn grass recommended for those wishing a quick growing lawn at a nominal price. While the price is low, the ingredients are all high-grade solid seed.

SHADY NOOK

A special formula of perennial grasses adapted to shady places, including Poa-Trivialis and Fescue. Recommended for shady places, around trees and buildings.

and
MERION BLUE GRASS
See Page 23

Buy your seed directly from your

MICHAEL-LEONARD DEALER

*It's faster, more convenient—
and you'll save money!*